Proudman
Oceanographic
Laboratory

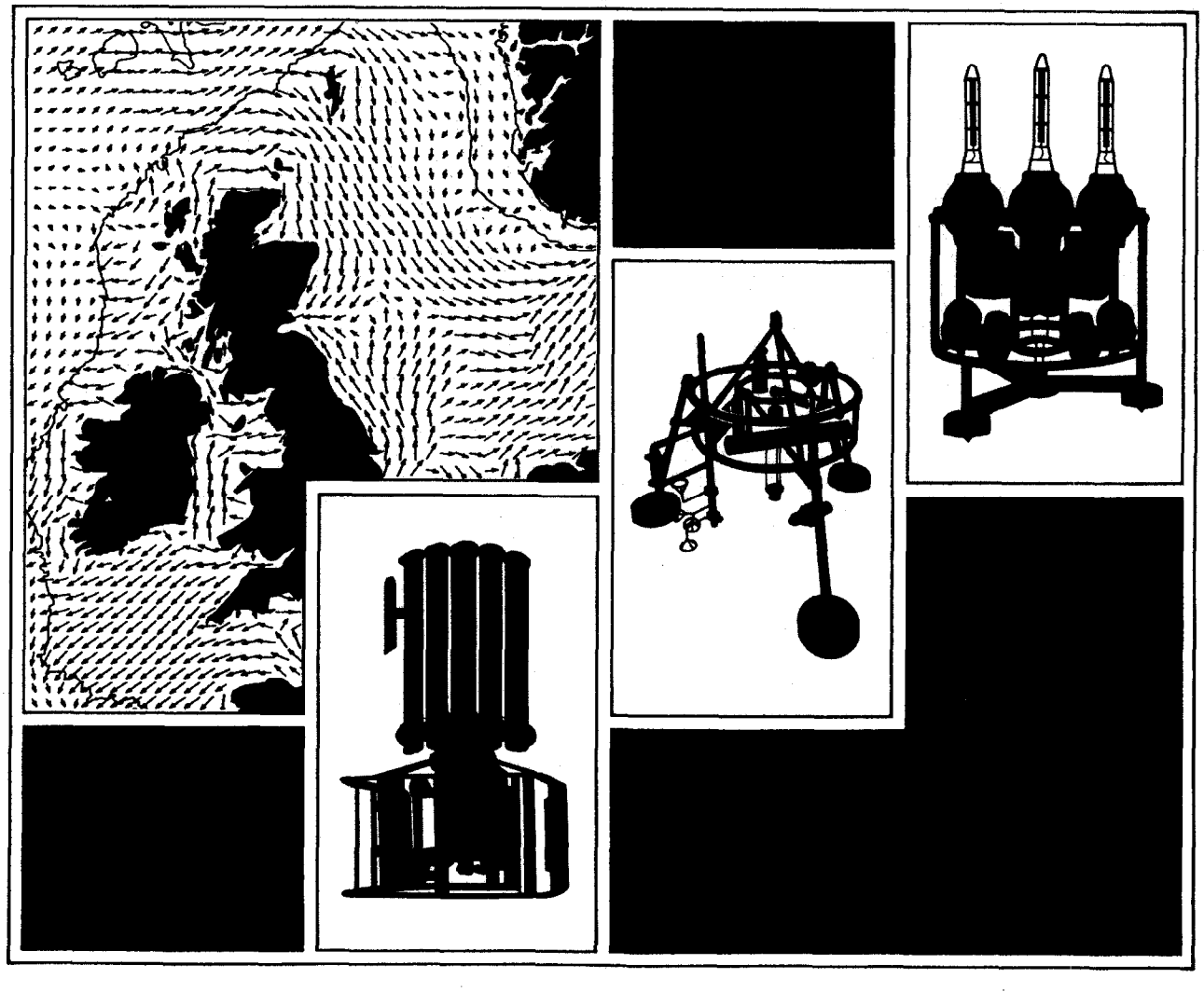
Current Profile and sea-bed pressure and temperature records

May 1990 – July 1991

Dover Strait

PJ Knight MJ Howarth D Flatt and SG Loch

Report No 22 1992



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REPORT No. 22

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DOCUMENT DATA SHEET

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PUBLICATION DATE **1992**

TITLE
Current profile and sea-bed pressure and temperature records. May 1990 - July 1991. Dover Strait.

REFERENCE
Proudman Oceanographic Laboratory, Report No 22, 234pp.

ABSTRACT

This data report describes results obtained from a bottom mounted Acoustic Doppler Current Profiler (ADCP) and an Aanderaa Water Level Recorder positioned in the Dover Strait between May 1990 and July 1991. Standard plots are shown for the ADCP and WLR, as well as statistical output from the calibrated ADCP data

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KEYWORDS
CURRENT PROFILES CURRENT METER DATA CURRENT METER OBSERVATIONS NWEURCHAD ACOUSTIC DOPPLER CURRENT PROFILER (ADCP) ENGLISH CHANNEL DOVER STRAIT "ALKMAAR" "CHALLENGER"/RRS-CRUISE 66/90(1990) "ZIERIKE"

CONTRACT

PROJECT **MLS-22-1**

PRICE **£ 51**

Copies of this report are available from:
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CONTENTS

1 INTRODUCTION

From May 1990 to July 1991 an experiment was conducted to determine the flux of contaminants passing from the English Channel into the North Sea. Included in the experiment were year long deployments of OSCR HF radar to measure surface currents, transmissometer rigs and Acoustic Doppler Current Profilers (ADCP's), and also the RRS Challenger cruise 66/90.

This report describes the records from deployments of the 1 MHz ADCP to which was fitted a Water Level Recorder (WLR). Instruments were deployed at monthly intervals at site A (50° 56'N 01° 16'E, see section 2.2) for the full period and at sites B (50° 47'N 01° 15'E) and C (50° 53'N 01° 32'E) for one month only, in May and June 1990. These sites lie between Dungeness and Cap Griz-Nez (see Figure 1), in a region of strong rectilinear tidal currents, (the M2 amplitude at A was 0.7 m/s) and where the water depth is approximately 30m, ensuring that the water column was well mixed throughout the year.

Each mooring incorporated an ADCP and a WLR mounted on a low profile frame situated on the sea bed, see Figure 2. The ADCP recorded vector averaged North and East components of current at set levels throughout the water column. It also recorded backscatter strength and two components of tilt. The tilts gave an indication of mooring stability and were used to correct for uneven frame positions. The WLR recorded pressure and temperature.

Gaps of the order of 10 to 30 minutes occurred in the ADCP data during the 00436, 00470 and 00474 deployments. After calibration of the ADCP data and when required, linear interpolation of the gaps, statistics were calculated and a low pass filter was applied to produce six hourly values which were also statistically analysed. Finally standard current meter plots were produced in order to check data quality and to aid in interpretation of both types of data set.

The good data return for the survey period for the ADCP was 57%, with a 34% loss due to malfunctions and a 9% loss due to trawling. The WLR returned 91% good data, also with a 9% loss due to trawling. During analysis of the ADCP data two problems were highlighted with the ADCP. The first was the incorrect frame angle measured by the compass which is needed to produce East and North components from Beam 1 and Beam 2 components. A new type of compass was tested towards the end of the experiment, but it also failed to record the correct frame angle. The reference direction had then to be estimated as described in Section 8. Secondly a reduction in velocity amplitude with increased distance from the transducers can be clearly seen in the time series and scatter plots. Further investigation is therefore required to solve these problems for the next deployments and future versions of the ADCP.

2 SUMMARY OF DEPLOYMENTS

The following information gives an overview of the data processed at sites A, B and C during the Dover Strait survey.

2.1 Deployment details

Mooring	Meter No	Deployment	Recovery	Meter Ht(m)	Data length	Comments
First deployments						
1A 424	DP0004	22-MAY-90	15-JUN-90	0.5	8.7 days	Short by 15.3 days
1A 424	WR1038	22-MAY-90	15-JUN-90	0.5	8.7 days	Short by 15.3 days
1B 426	DP0009	22-MAY-90	14-JUN-90	0.5	0.0 days	No data recorded
1B 426	WR1042	22-MAY-90	14-JUN-90	0.5	22.8 days	Good data set
1C 428	DP0010	22-MAY-90	14-JUN-90	0.5	22.7 days	Good data set
1C 428	WR0915	22-MAY-90	14-JUN-90	0.5	22.7 days	Good data set
Subsequent deployments						
2A 434	DP0010	15-JUN-90	29-JUN-90	0.5	14.2 days	Short by 18.8 days
2A 434	WR1042	15-JUN-90	29-JUN-90	0.5	14.0 days	Short by 19.0 days
3A 436	DP0004	18-JUL-90	21-AUG-90	0.5	34.1 days	Good data set + Gaps
3A 436	WR1038	18-JUL-90	21-AUG-90	0.5	34.2 days	Good data set
4A 438	DP0010	04-SEP-90	24-SEP-90	0.5	19.5 days	Good data set
4A 438	WR1038	04-SEP-90	24-SEP-90	0.5	19.5 days	Good data set
5A 440	DP0010	24-SEP-90	18-OCT-90	0.5	23.7 days	Good data set
5A 440	WR1038	24-SEP-90	18-OCT-90	0.5	23.7 days	Good data set
6A 454	DP0004	18-OCT-90	20-NOV-90	0.5	33.1 days	Good data set
6A 454	WR0915	18-OCT-90	20-NOV-90	0.5	33.1 days	Good data set

Mooring	Meter No	Deployment	Recovery	Meter Ht(m)	Data length	Comments
New compass fitted						
7A 456	DP0010	20-NOV-90	18-DEC-90	0.5	27.9 days	Good data set
7A 456	WR1038	20-NOV-90	18-DEC-90	0.5	27.9 days	Good data set
8A 466	DP0004	18-DEC-90	23-JAN-91	0.5	0.0 days	Corrupted data set
8A 466	WR0915	18-DEC-90	23-JAN-91	0.5	35.9 days	Good data set
9A 468	DP0010	23-JAN-91	25-FEB-91	0.5	0.0 days	Corrupted data set
9A 468	WR1038	23-JAN-91	25-FEB-91	0.5	33.0 days	Good data set
New set up used						
10A 470	DP0004	24-FEB-91	10-APR-91	0.5	14.1 days	Short by 30.3 days + Gaps
10A 470	WR0915	24-FEB-91	10-APR-91	0.5	44.0 days	Good data set
11A 472	DP0010	10-APR-91	13-MAY-91	0.5	0.0 days	Corrupted data set
11A 472	WR1038	10-APR-91	13-MAY-91	0.5	33.0 days	Good data set
12A 474	DP0004	13-MAY-91	11-JUN-91	0.5	26.3 days	Short by 2.6 days + Gaps
12A 474	WR0915	13-MAY-91	11-JUN-91	0.5	28.9 days	Good data set
13A 476	DP0010	11-JUN-91	08-JUL-91	0.5	26.9 days	Good data set
13A 476	WR1038	11-JUN-91	08-JUL-91	0.5	26.9 days	Good data set

2.2 Variation of site A mooring positions

Following advice from local fishermen, Site A was moved to a position where mooring survival was thought to be greater, due to less ship traffic and reduced fishing.

Mooring No	Latitude	Longitude
424	50° 55.78′ N	01° 16.31′ E
434	50° 55.87′ N	01° 16.47′ E
436	50° 55.87′ N	01° 16.47′ E
438	50° 56.60′ N	01° 15.60′ E
440	50° 56.60′ N	01° 15.60′ E
454	50° 56.47′ N	01° 17.74′ E
456	50° 56.59′ N	01° 16.40′ E
466	50° 56.59′ N	01° 16.40′ E
468	50° 56.57′ N	01° 16.22′ E
470	50° 56.57′ N	01° 16.29′ E
472	50° 56.70′ N	01° 16.40′ E
474	50° 56.60′ N	01° 16.40′ E
476	50° 56.60′ N	01° 16.40′ E

3 RIG SYSTEM DESCRIPTION

The moorings were deployed in a water depth of approximately 30m at latitude 50° 56'N longitude 01° 16'E , latitude 50° 47'N longitude 01° 15'E and latitude 50° 53'N longitude 01° 32'E. Each consisted of the two instruments and an IOS acoustic release mounted on a low profile frame positioned on the sea bed, see Figure 4. On recovery the release was triggered by sending acoustic signals from the ship so that the frame separated from the ballast weight. The frame under its own buoyancy then rose to the surface ready for picking up. Figure 2 shows a schematic diagram of the mooring.

The reliability of the mooring system used was reflected in the 100% return of deployed equipment. The deployment and recovery phases were carried out by RRS Challenger (C66) and hired fishing vessels, as indicated by the rig information details.

4 CURRENT METER SPECIFICATIONS

The ADCP (Proudman Oceanographic Laboratory 1 MHz version) measured the vertical profile of currents in bins from the sea floor to the surface.

4.1 Acoustic Doppler Current Profiler (POL 1 MHz version)

The ADCP sends out short acoustic pulses, typically lasting a few thousandths of a second, at a fixed frequency. The acoustic pulses, transmitted in two narrow beams at right angles to each other and 30° to the vertical, are reflected back to the ADCP by small particles, such as plankton, which move with the water. The frequency of the reflected signal is changed by a small amount proportional to the current speed, the Doppler shift. By measuring the frequency change along the two beams the speed and direction of the currents are determined. The currents at different heights through the water column are obtained by chopping the return signal into segments by time.

The 1 MHz ADCP has a range of 30m and can measure up to 24 bins. However, the technique has some limitations which reduce the amount of good data return. The closest bins to the transducers can give erroneous data due to the time taken for transients to decay and the far end bins can be effected by interference from side lobes reflected from the sea surface. Hence, the good data return bins are usually between 15% of depth from the surface and 10% of depth from the bottom. The good bin returns are as follows: 424 / 434 / 436 / 438 / 440 / 454 / 456 / bins(1-18), 428 / bins(1-17) and 470 / 474 / 476 / bins(1-16) with bins 1 (bottom) to 24 or 16 (top).

4.2 Loss of signal with range

A gradual reduction in current speed is apparent, with increasing distance from the transducers, for instance see the time series plots. This had been noticed on earlier experiments with the 250 kHz ADCP, but is clearly a greater problem with the 1 MHz ADCP measuring 24 bins. After the ninth deployment, set up (2) was used with only limited success and continued loss of signal. A correction is currently being investigated using the backscatter strength also recorded by the ADCP.

4.3 ADCP specification

Speed	Range	0 to 350 cm s^{-1}
	Accuracy	±4 cm s^{-1}
Direction	Refer to Section **8 ANGLE CORRECTION TO ADCP DATA**	
Tilt	Two tilts measured at 90° to each other	

4.4 ADCP set up details

Set up (1)	Sample period	10 minutes
	Number of bins (cells)	24
	Number of pings in ensemble	180
	First bin height/Bin separation	3.9 m / 1.4 m
	Bin heights (range) (1-24)	3.9 m / 5.3 m / 6.7 m / 8.1 m / 9.5 m / 10.9 m / 12.3 m / 13.7 m / 15.1 m / 16.5 m / 17.9 m / 19.3 m / 20.7 m / 22.1 m / 23.5 m / 24.9 m / 26.3 m / 27.7 m / 29.1 m / 30.5 m / 31.9 m / 33.3 m / 34.7 m / 36.1 m
Set up (2)	Sample period	10 minutes
	Number of bins (cells)	16
	Number of pings in ensemble	275
	First bin height/Bin separation	3.9 m / 1.4 m
	Bin heights (range) (1-16)	3.9 m / 5.3 m / 6.7 m / 8.1 m / 9.5 m / 10.9 m / 12.3 m / 13.7 m / 15.1 m / 16.5 m / 17.9 m / 19.3 m / 20.7 m / 22.1 m / 23.5 m / 24.9 m

5 WATER LEVEL RECORDER

The Aanderaa WLR Model 5 is a self recording high precision instrument for recording water level by measurement of hydrostatic pressure. The standard range is 270 meters, corresponding to a sensor range of 0-400 PSI (0-27.2 bars). The effects due to waves are averaged over a 40 second integration time. Temperature is obtained from a thermistor fitted on the top plate of the meter and extending into the water.

5.1 WLR sensor specifications

Pressure	Range	0.0 to 27.2 bars (0-400 PSI)
	Accuracy	0.01% of pressure
Temperature	Range	0.0 to 30.0°C
	Accuracy	±0.03°C

5.2 Conversion from bars to meters of water

The WLR has a sensitive pressure sensor which produces pressure in bars after calibration. The pressure measured includes water column pressure and atmospheric pressure. In order to produce a value for meters of water above the sensor instead of bars the atmospheric pressure must be subtracted from the calibrated value of pressure and the result multiplied by 9.94.

$$\mathbf{p = \rho * g * h}$$

hence $\mathbf{h = 9.94\ m}$

where
- $\mathbf{p}$ Pressure at 1 bar (10000 Pascals)
- ρ Water density assumed to be 1025 kg/m^3
- $\mathbf{g}$ Gravitational acceleration (9.81m/s)
- $\mathbf{h}$ Depth of water equivalent to 1 bar pressure

$$\mathbf{P = (P_{total} - P_{atm}) * 9.94}$$

where
- $\mathbf{P}$ Pressure in metres of water
- $\mathbf{P_{total}}$ Total recorded pressure in bars
- $\mathbf{P_{atm}}$ Atmospheric pressure in bars

6 DATA PROCESSING STEPS

6.1 Raw data transfer

The data from the ADCP were brought back to POL on standard magnetic cassette. The data were then translated and stored on an IBM/PS2 and then transferred to the IBM 4381 mainframe via a 3270 terminal emulator on the IBM/PS2

6.2 Processing stage

Two software systems, CALT and CALP, were developed at POL for quick and efficient processing and display of times series data, such as current meter data. The CALT system calibrates and checks for errors and the CALP system produces standard graphical output, filtered and non-filtered statistical analyses. Before calibrating the data, all the information required for processing were input into an ORACLE data base. All the information could then be accessed easily with FORTRAN programs.

Processing was then initiated by CALTUX, which calls a suite of FORTRAN programs for error checking and producing calibrated data. Any errors found from the initial run were edited out of the raw data and CALTUX run again. After successful completion of the CALTUX stage another suite of FORTRAN programs initiated by DOPTX were used to produce the output contained in this report. The types of plot obtained, details of filtering and statistics are explained in more detail in the following sections.

Tidal analysis was carried out using the standard POL package which was adapted to use current meter data. It was initiated by TITANX, which calls the suite of FORTRAN programs needed for the analysis. The results are not included in this report, although they were used in connection with the angle correction. (Refer to Section 8)

6.3 Interpolation

In some data sets, gaps occur of the order of 10-30 minutes, as indicated by the meter information sheets found further into the report and in section 2 SUMMARY OF DEPLOYMENTS. In these cases the gaps were filled by linear interpolation to the data before producing standard graphical output and statistical analyses.

7 DETAILS OF STATISTICS AND FILTERING

7.1 Simple statistics

A simple statistical analysis was carried out on each calibrated data set. The following statistics were calculated :-

(1) Mean, variance and standard deviation of the East and North components of velocity.
(2) The mean vector speed and direction were calculated from the above statistics.
(3) The maximum ten and minimum ten Northings and Eastings and the top speeds.

7.2 Variance ellipse statistics

Statistical analysis was also carried out on the ellipse which can be graphically represented by a scatter plot. The following statistics were calculated :-

(1) The maximum and minimum variances and their ratio (minimum/maximum). If the ratio is near to one the currents have no preferred direction, whilst if it is near to zero the flow is rectilinear.
(2) The direction associated with the maximum and minimum variance, in the range of -180° to +180°.
(3) The total variance which equals the sum of the North and East component variances or the sum of the maximum and minimum variances.
(4) The average direction for each half of the ellipse, related to the directions of maximum variance. If these directions differ by 180° the scatter plot is symmetrical.

7.3 Filtering

The ten minute calibrated data were also low pass filtered, see Figure 3 which shows the filters response function, and sub-sampled every 6 hours. Three days of data are lost at the beginning and the end of the record. The statistical analysis was repeated on the filtered data set.

8 ANGLE CORRECTION TO ADCP DATA

8.1 Direction measurement

Figure 5 shows how Beam 1 and Beam 2 of the ADCP align with respect to the frame and the compass. The compass manufactured by Digicourse (no longer in production) measures the angle between magnetic North and the frame. The two beams can be converted into East and North components of velocity by using the angle obtained from the compass and trigonometry.

Preliminary analysis of ADCP data obtained from the Celtic Sea showed no problem with this type of compass. However, during the Dover Strait study the compasses consistently gave directions of flow different from those produced by Ocean Surface Current Radar (OSCR) and previous current meter records (Prandle, 1991). A correction was then required to the frame angle for each deployment.

The compass errors were thought to be due to magnetic interference caused by the ballast. Therefore towards the end of the deployments a new compass was introduced which was fitted externally from the recording electronics and positioned on top of the low profile frame. However this did not improve the frame angle measurement sufficiently therefore a correction was still required.

8.2 Correction procedure

The ADCP data were first processed using the CALT and CALP software. The statistical analysis gave the angle α of maximum variance as shown in Figure 6(a). This angle α was taken to represent the M2 major axis tidal ellipse angle β shown in Figure 6(b). The compass, although giving incorrect readings of frame angle was recording direction to an unknown fixed position. It was therefore decided to correct the frame angle by adding a correction angle.

The correction angle was calculated from the difference between β taken from OSCR and previous current meter data (Prandle, 1991) and α calculated from the initial raw data analysis. The angle β was taken to be 45° for Site A and 23° for Site C (Prandle, 1991). The bin closest to the depth average was used to calculate the correction angle and was taken to be the bin nearest to a value $z=0.4D$, where D is the total depth of water and z is the height from the bottom (Prandle, 1982). There is a 180° ambiguity in the calculation of α which was resolved by study of the M2 tidal phase given by OSCR and by the observations.

9 FORMAT OF DATA OUTPUT

All speeds and velocities are in m/s, directions in degrees true and time in GMT. The results are ordered by mooring number (See page 10). Each mooring result is made up of mooring information, meter information, and combined and depth averaged graphical output and statistics (unfiltered and filtered), with the ADCP first followed by the WLR.

9.1 Mooring information

Position latitude	: Latitude of deployment
Position longitude	: Longitude of deployment
Water depth(m)	: Depth measured from ship's echo sounder
Deployed on cruise	: Cruise identifier or ship name
Recovered on cruise	: Cruise identifier or ship name
Site name identification	: Additional site identifier
Magnetic deviation	: Taken from charts
Rig deployed on	: Time frame on the bottom
Rig recovered on	: Time release fired on rig
Period of deployment	: Total time of deployment
Comments	: Details regarding mooring

9.2 Meter information

Rig number	: Unique POL mooring/rig reference
Meter number	: Four digit current meter number
Frame angle correction	: Correction to ADCP frame angle
Sample interval	: Sampling interval in seconds
Meter height from bottom	: Height in metres
Position of meter on rig	: A for attached to frame
Meter type	: DP for ADCP WR for Water Level Recorder
Meter started	: Date and time
Meter stopped	: Date and time
Time of last valid scan	: Used when good data ends before switch off
Period in days on record	: Total time meter switched on
Total number of scans	: Used to check timing
Timing error	: Error in seconds
Comments	: Details regarding meter

9.3 Combined ADCP profile output

(1) North and East components of velocity against time. The semi-diurnal nature of the tides can be seen as well as the Spring/Neap cycle in both components of velocity.

(2) Scatter diagrams of North components of velocity against the East components. Shows the direction and magnitudes of the currents. This plot is often a good check on the quality of the data, in particular regarding direction and possible problems at low speeds.

(3) Stacked filtered stick plot. The filtered data can be displayed in a stick type way in order to see the change of the residual flow with time and through the vertical.

(4) Combined statistics for each bin giving vector mean speed and direction, and maximum and minimum variance and directions of maximum and minimum variance.

9.4 Single bin (closest to depth average) output

(1) North and East components of velocity against time.

(2) Eulerian progressive vector plot. The nature of the residual flow is emphasised, although the semi-diurnal tides are also apparent.

(3) This is followed by simple statistics of the calibrated data and filtered data. The filtered statistics page is indicated by the letter 'F' at the end of the file type printed at the top of the page. The statistics shown are from the ADCP bin closest to a value representing the depth averaged value.

9.5 Temperature and Pressure output

(1) Temperature (°C) and pressure (Bars) against time. The semi-diurnal nature of the tides and Spring/Neap cycle can also be seen in the pressure record

ACKNOWLEDGEMENTS

The authors would like to thank Graham Ballard for setting up, deploying and recovering the instruments.

The measurements described here were obtained as part of a study of flows through the Dover Strait commissioned by the UK Department of the Environment.

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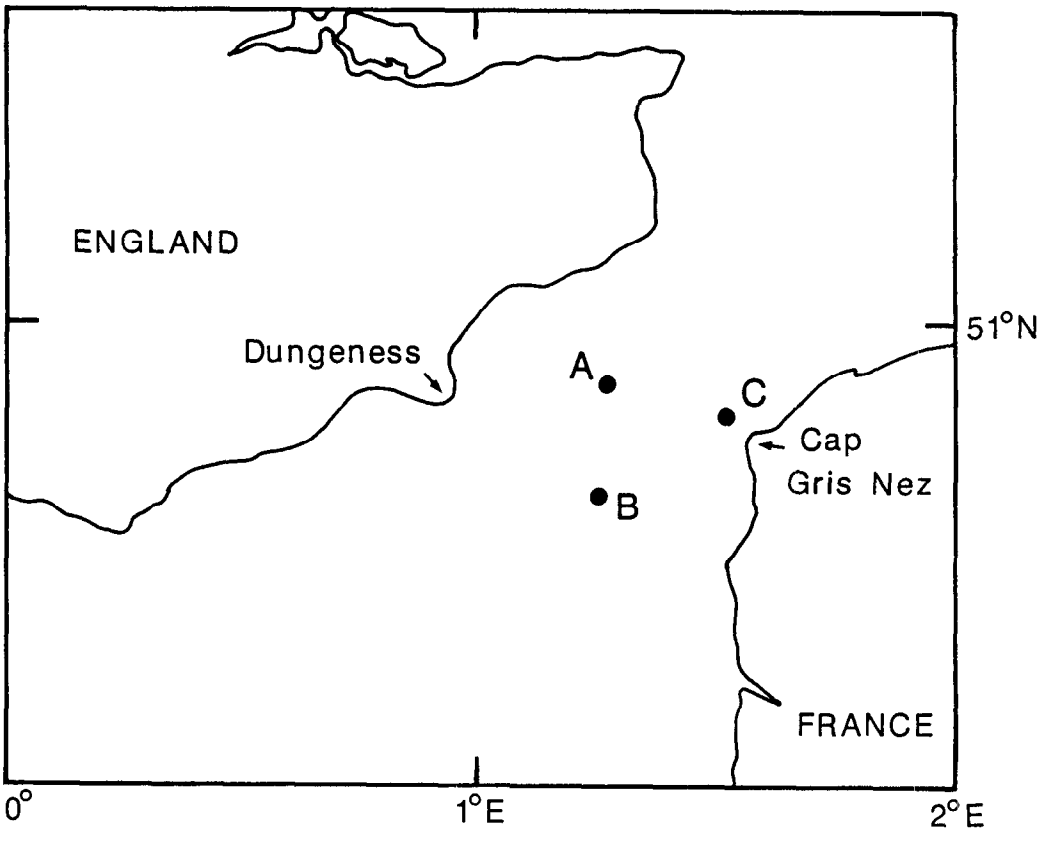


Figure 1. Mooring positions.

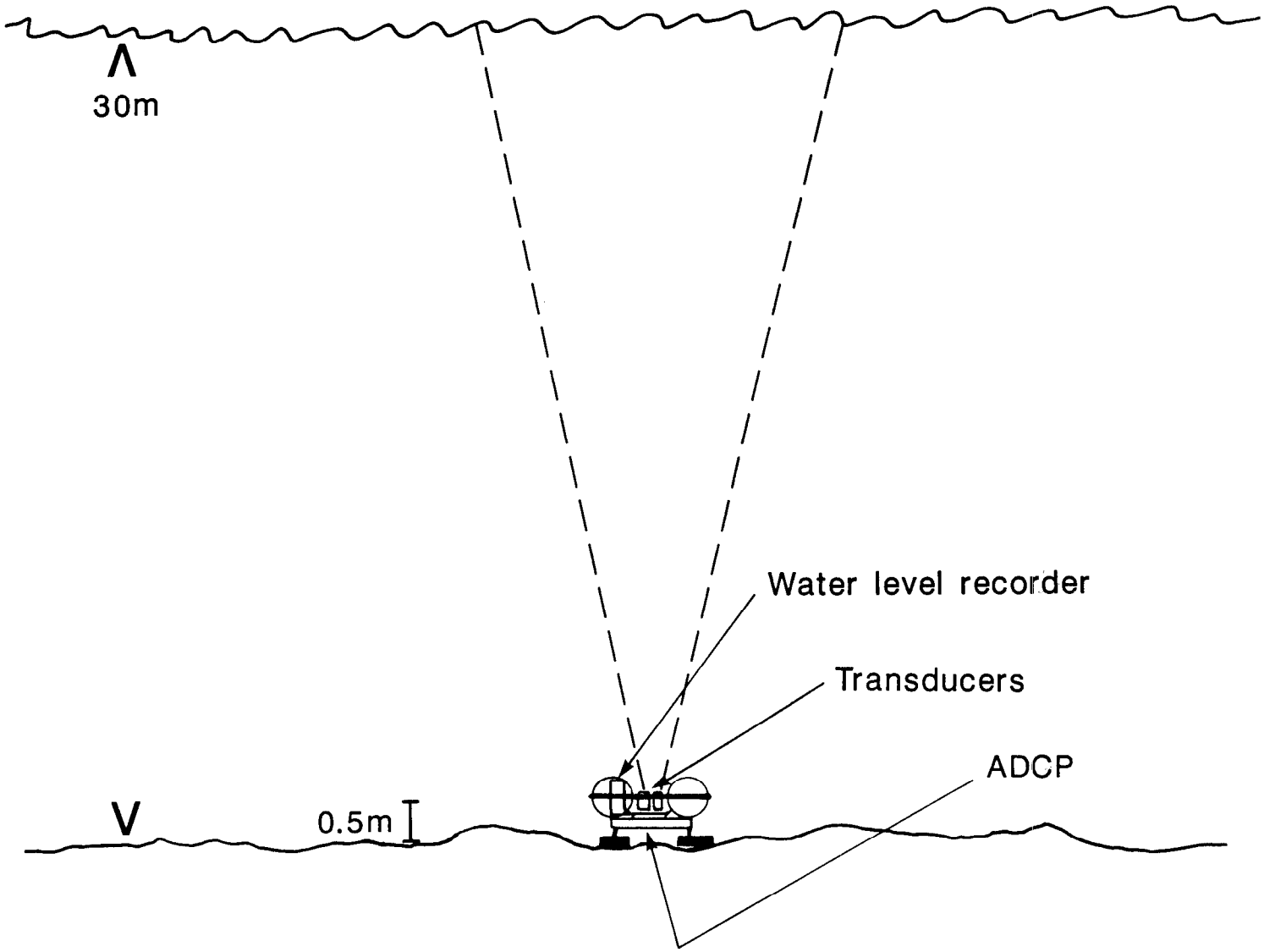


Figure 2. Schematic diagram of mooring system.

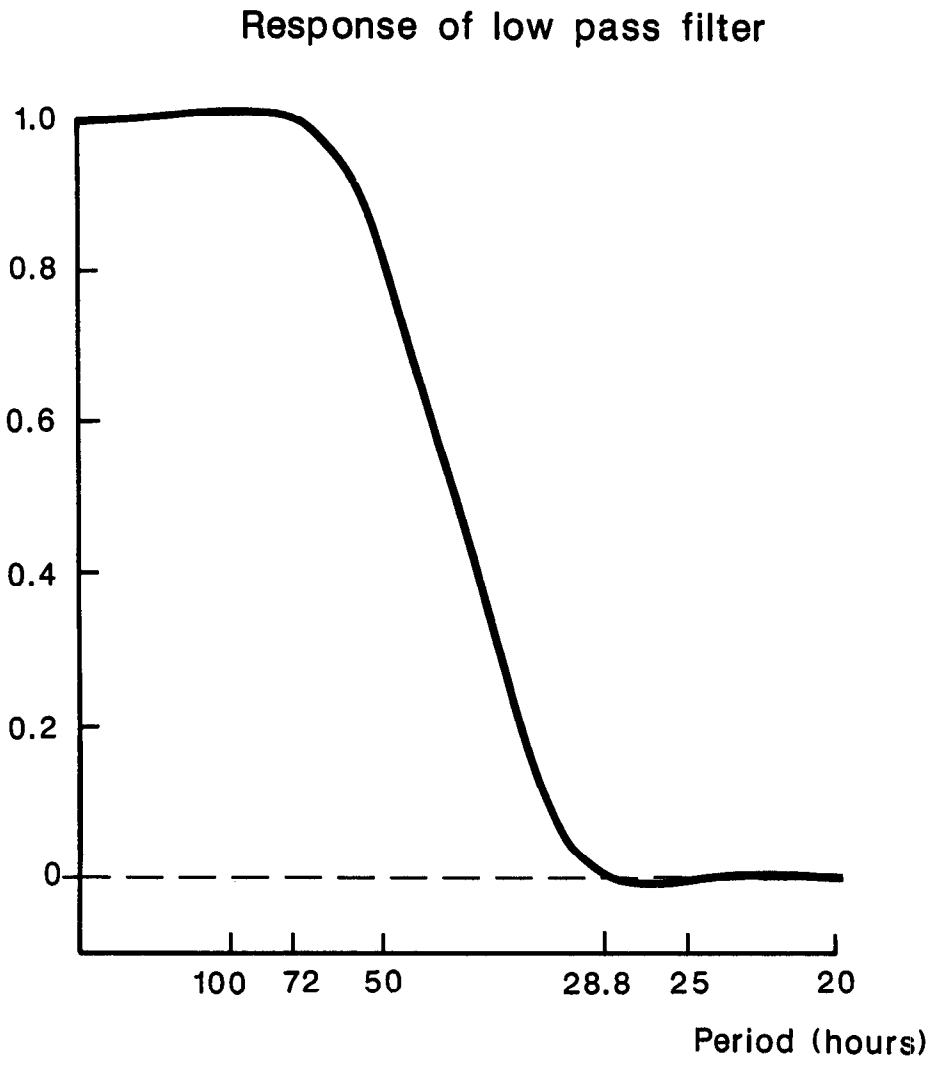


Figure 3. Response of low pass filter.

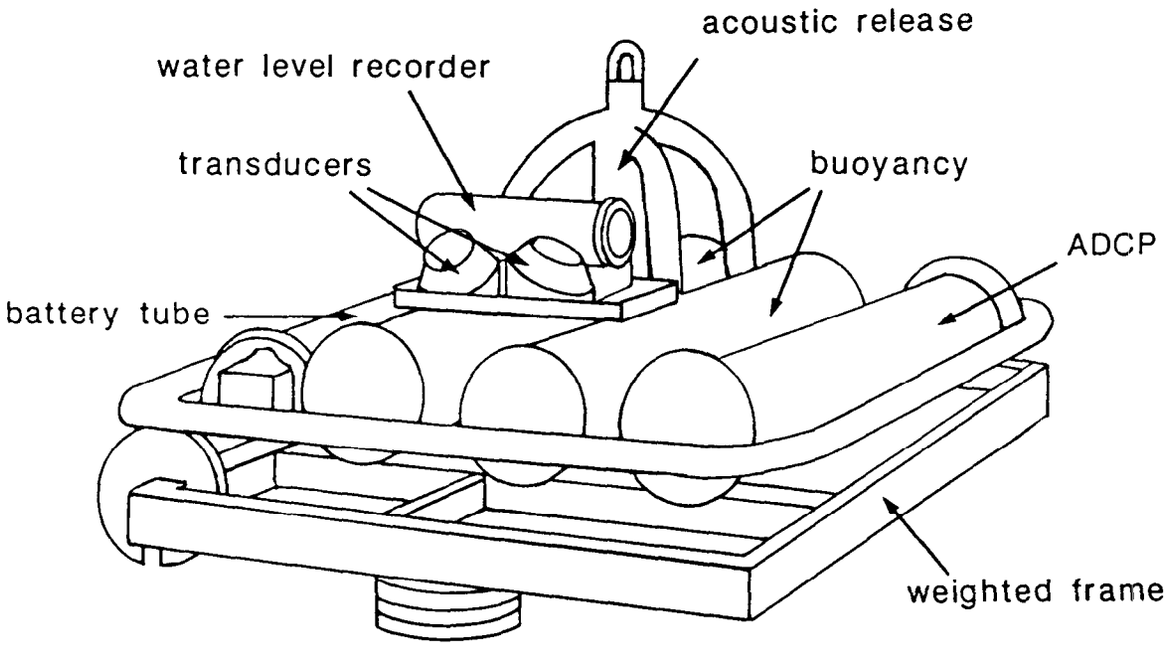


Figure 4. Diagram of ADCP and water level recorder.

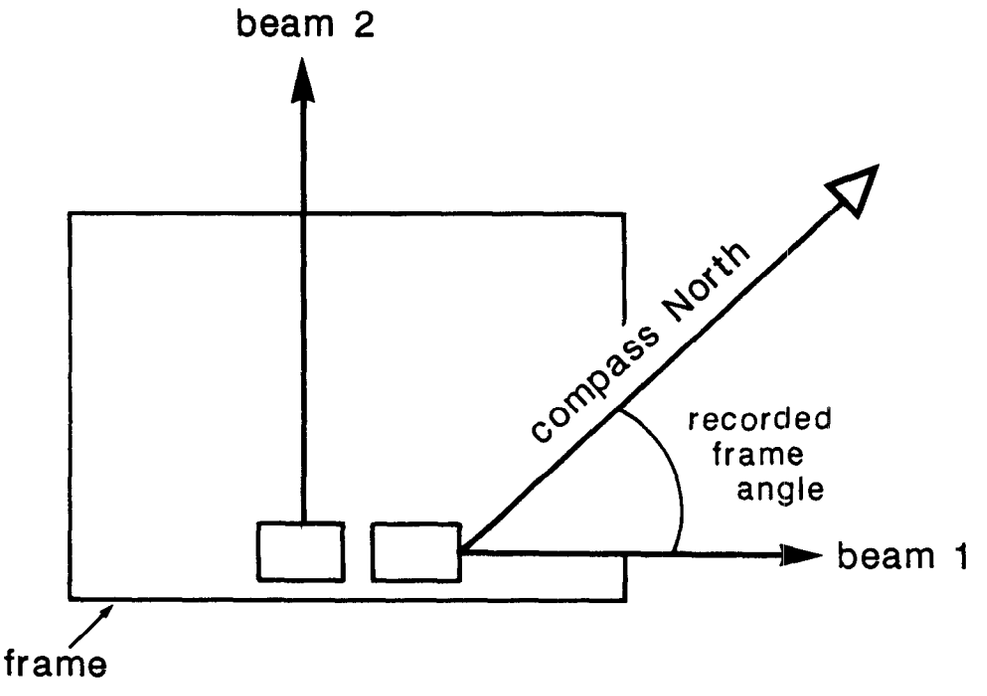


Figure 5. ADCP compass alignment.

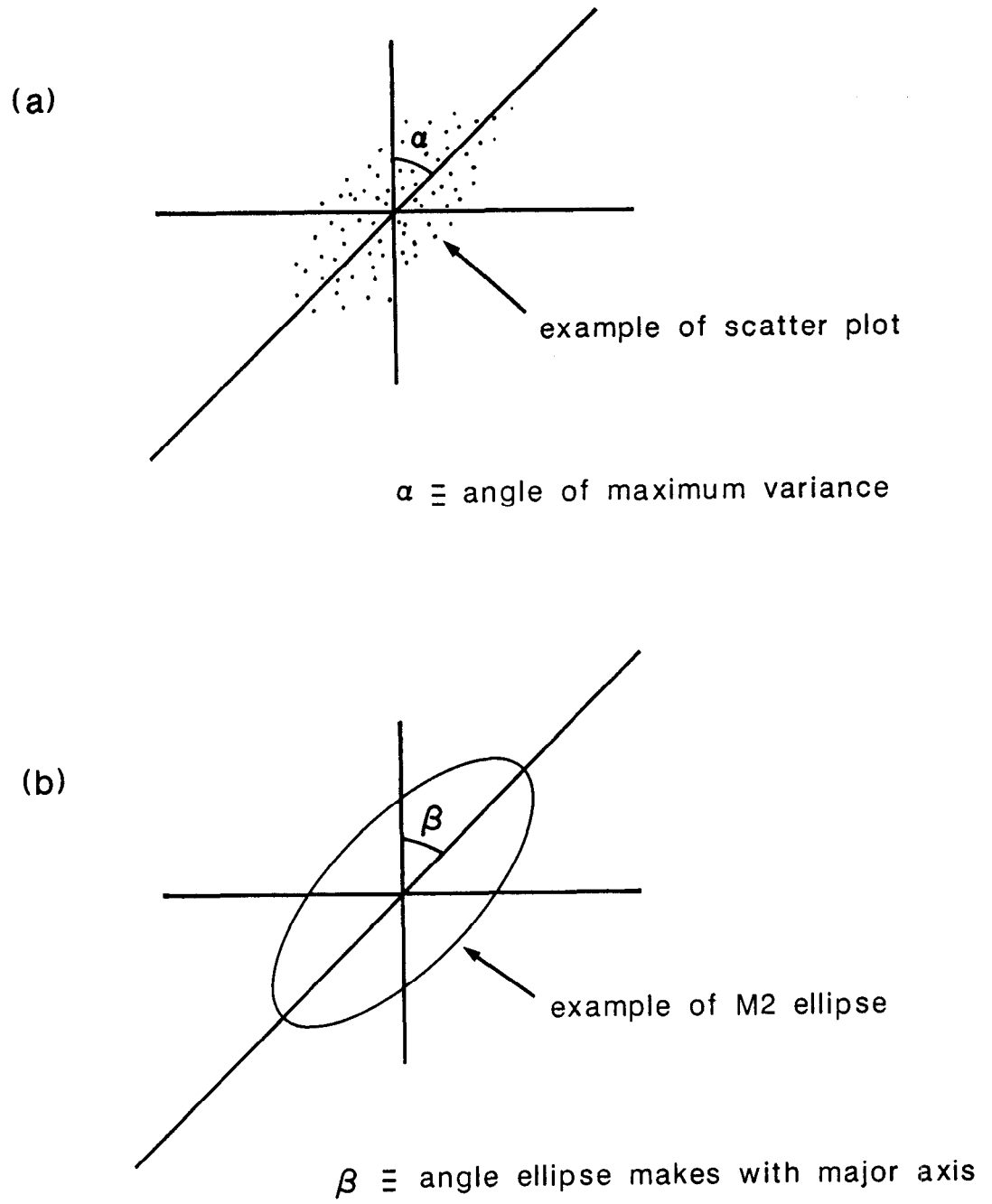


Figure 6. Diagram showing angles used in correction.

Rig information details for 00424

Position Latitude	:	50 55.78N
Position Longitude	:	01 16.31E
Water depth	:	30.0 m
Deployed on cruise	:	C66
Recovered on cruise	:	C66B
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	22-MAY-90 10:30:00
Rig recovered on	:	15-JUNE-90 09:35:00
Period of deployment	:	24.0 days
Comments	:	Suspected trawling incident due to missing pellet floats and mooring one mile off station

Meter information details for 0004

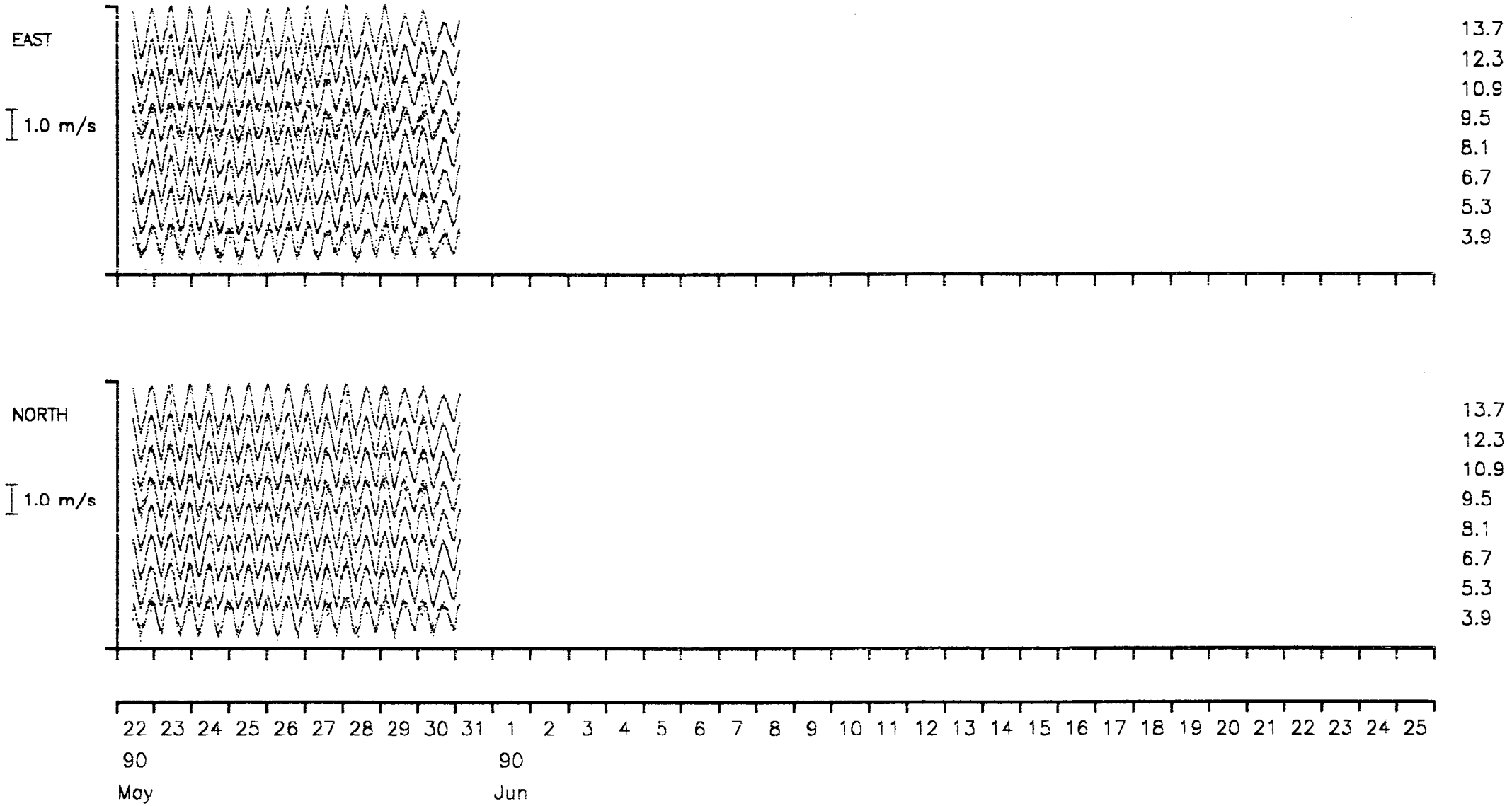
Rig No	:	00424
Meter No	:	0004
Frame angle correction	:	140.3 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	22-MAY-90 10:19:03
Time of last valid scan	:	31-MAY-90 03:38:56
Period of good data	:	8.7 days short record
Total number of scans	:	1255
Timing error	:	7 seconds fast
Comments	:	Corrupted hexaDECimal present in raw data e.g F7's instead of FF's

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

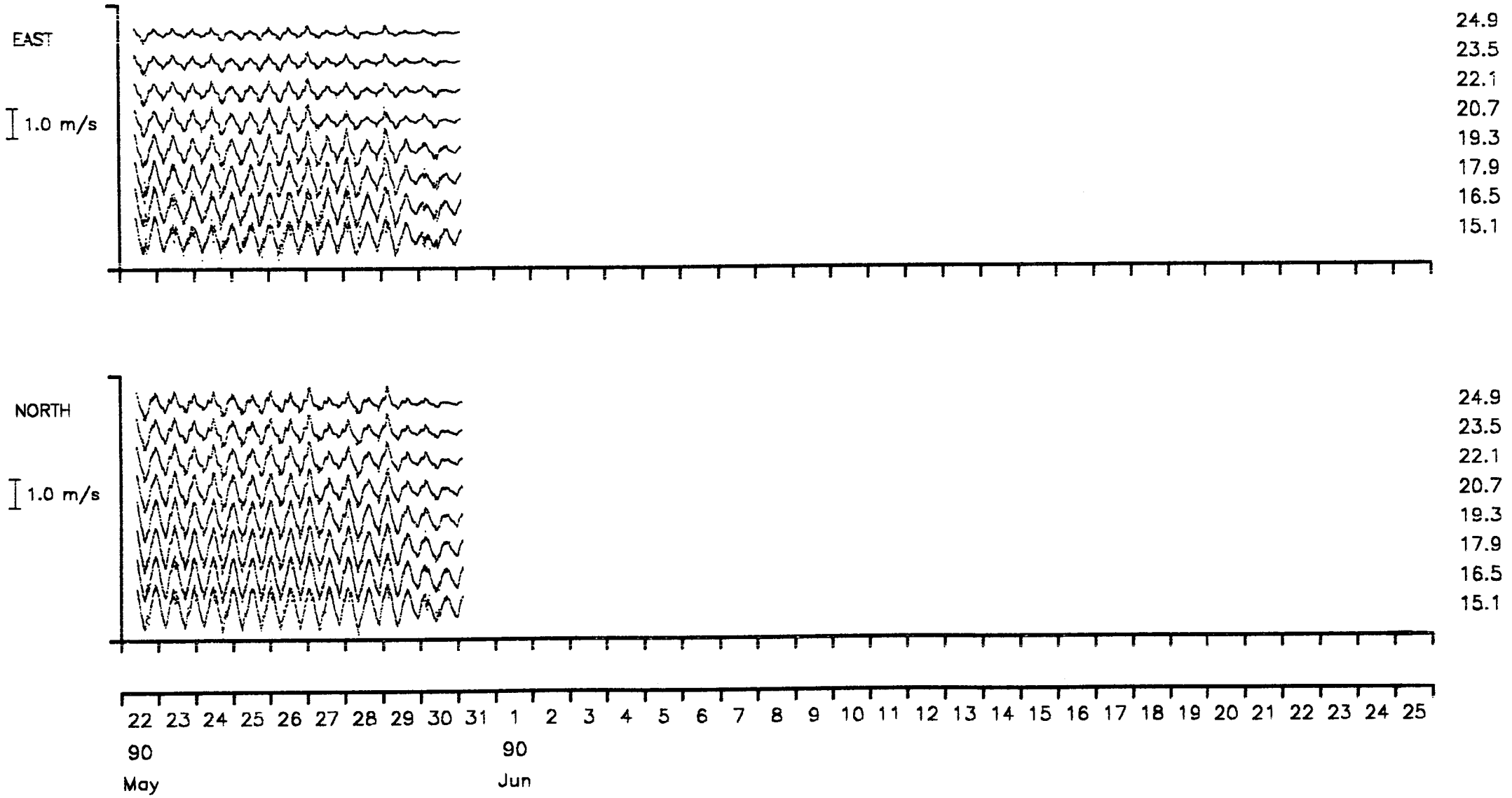


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

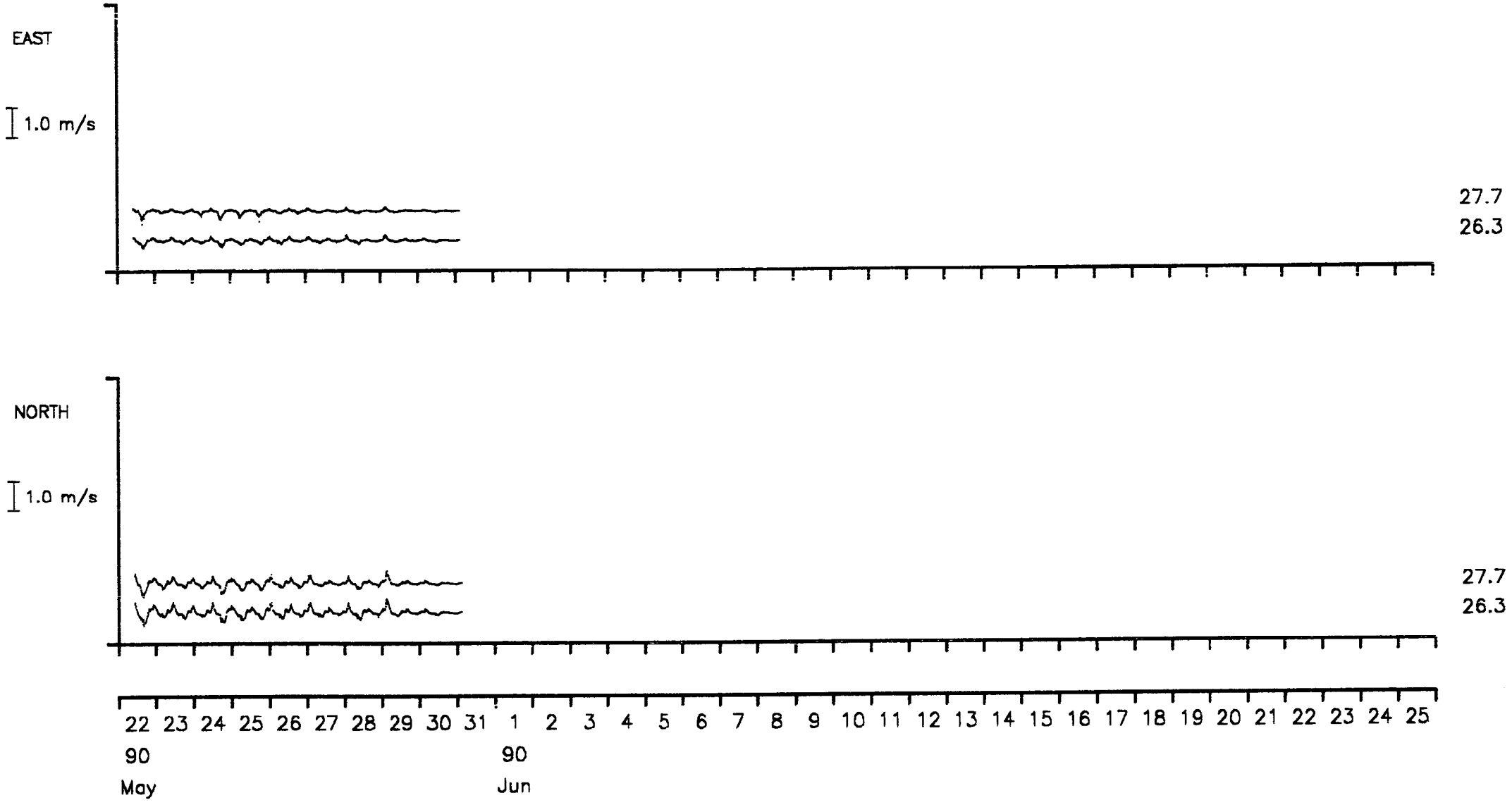


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

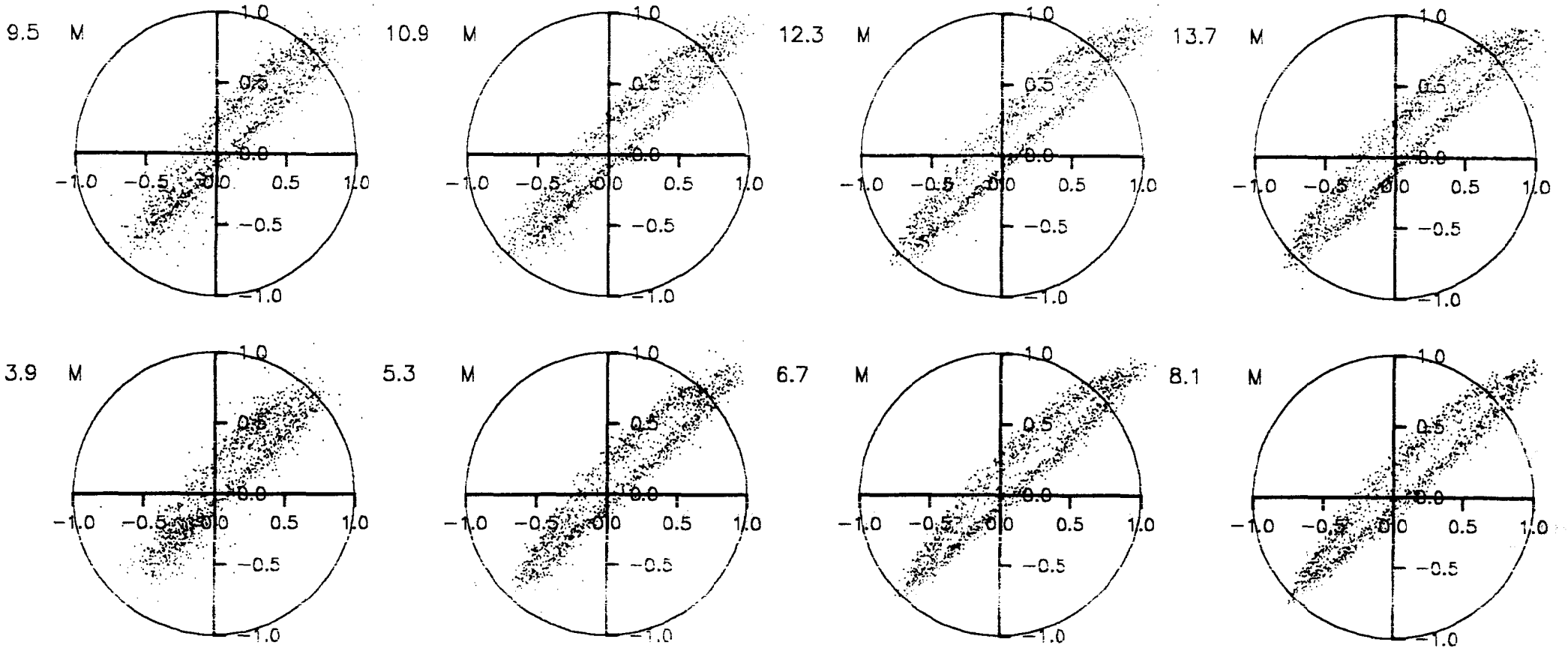


SCATTER PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

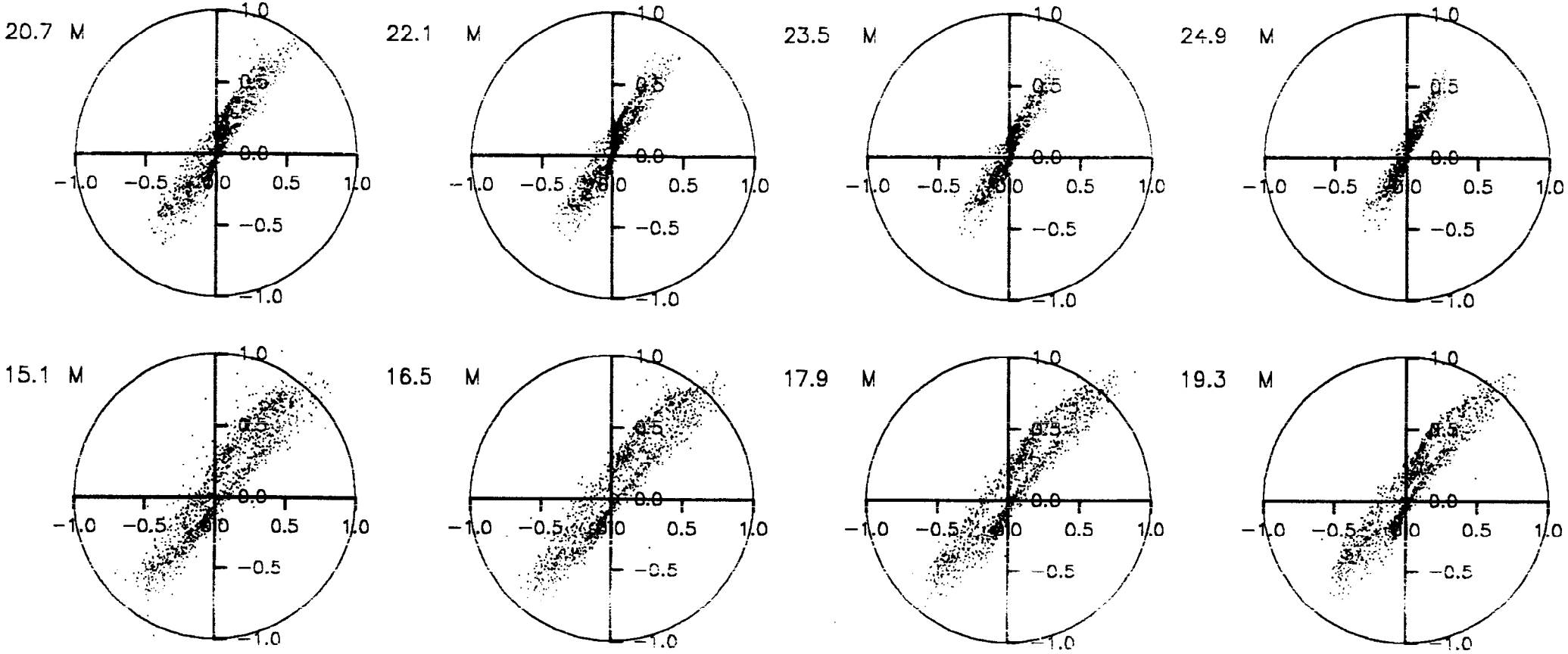


SCATTER PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

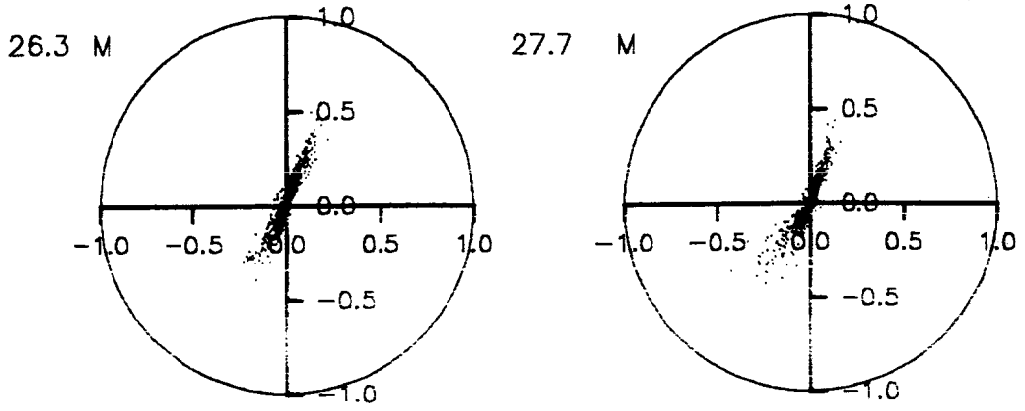


SCATTER PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

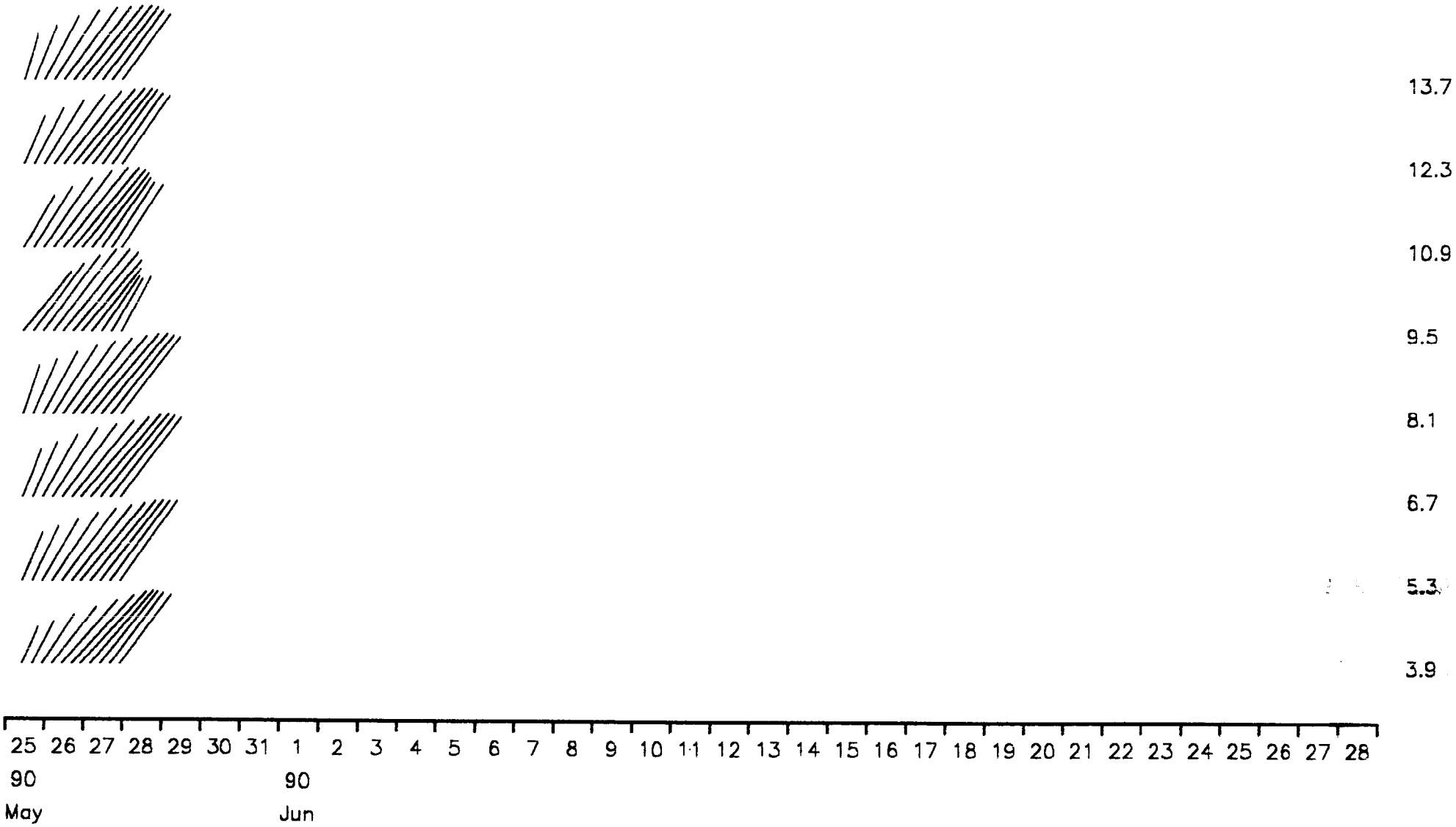


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

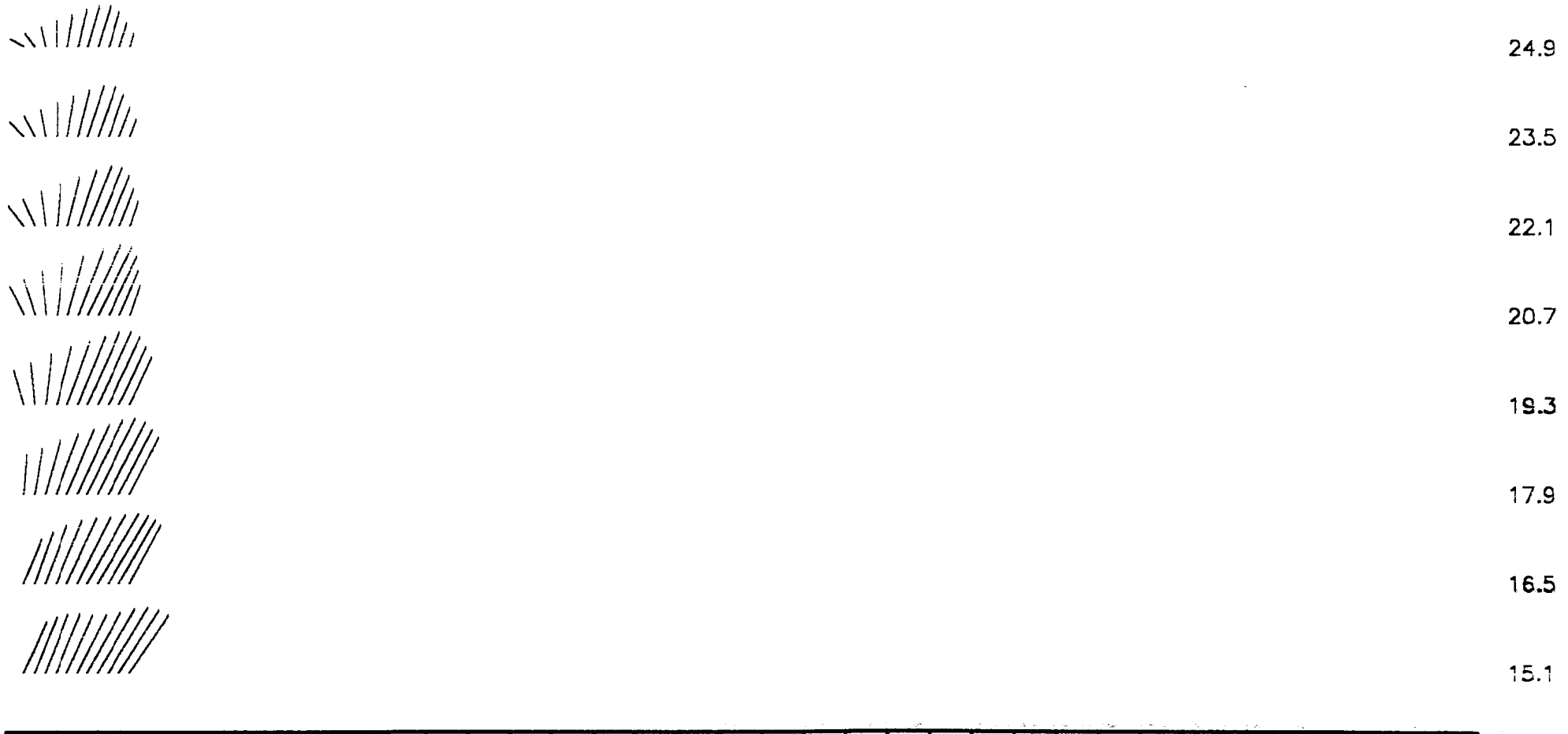
Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STICK TIME SERIES PLOT

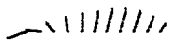
Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

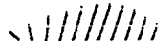
Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

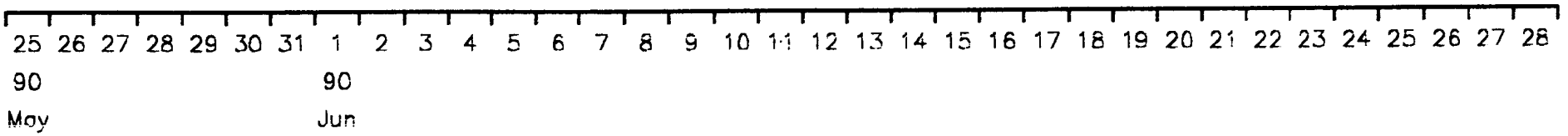
Scale 0.1 m/s



27.7



26.3



STATISTICS FOR DP0004 00424

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.157	41.4	0.2524	41.9	0.0120	131.9
2	5.3	0.175	40.3	0.3867	44.4	0.0090	134.4
3	6.7	0.178	40.6	0.4402	45.6	0.0086	135.6
4	8.1	0.174	40.3	0.4586	46.1	0.0085	136.1
5	9.5	0.161	40.7	0.3206	42.0	0.0120	132.0
6	10.9	0.166	40.3	0.4074	43.7	0.0103	133.7
7	12.3	0.163	39.3	0.4576	45.0	0.0104	135.0
8	13.7	0.153	38.6	0.4471	45.6	0.0120	135.6
9	15.1	0.116	30.7	0.2392	36.6	0.0086	126.6
10	16.5	0.117	29.0	0.2525	37.7	0.0080	127.7
11	17.9	0.111	25.2	0.2358	37.8	0.0067	127.8
12	19.3	0.100	20.9	0.1939	36.9	0.0056	126.9
13	20.7	0.077	14.6	0.1194	32.4	0.0032	122.4
14	22.1	0.063	11.6	0.0841	30.3	0.0020	120.3
15	23.5	0.051	9.7	0.0573	27.9	0.0013	117.9
16	24.9	0.039	7.1	0.0357	25.8	0.0007	115.8
17	26.3	0.031	9.4	0.0165	23.4	0.0003	113.4
18	27.7	0.015	-5.9	0.0133	26.3	0.0005	116.3

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.140	38.2	0.0015	52.8	0.0000	142.8
2	5.3	0.156	35.6	0.0013	54.5	0.0000	144.5
3	6.7	0.160	35.9	0.0016	56.8	0.0000	146.8
4	8.1	0.156	35.5	0.0015	59.1	0.0000	149.1
5	9.5	0.151	37.4	0.0010	50.9	0.0000	140.9
6	10.9	0.155	36.4	0.0007	53.3	0.0000	143.3
7	12.3	0.149	36.0	0.0009	57.2	0.0000	147.2
8	13.7	0.146	34.2	0.0011	60.0	0.0000	150.0
9	15.1	0.112	27.8	0.0002	67.8	0.0000	157.8
10	16.5	0.115	26.6	0.0004	48.0	0.0000	138.0
11	17.9	0.112	22.6	0.0008	45.8	0.0000	135.8
12	19.3	0.101	17.7	0.0011	50.1	0.0000	140.1
13	20.7	0.087	14.5	0.0013	49.8	0.0001	139.8
14	22.1	0.071	11.6	0.0010	44.8	0.0001	134.8
15	23.5	0.057	8.6	0.0007	38.4	0.0001	128.4
16	24.9	0.045	6.5	0.0006	35.1	0.0000	125.1
17	26.3	0.034	12.7	0.0002	34.9	0.0000	124.9
18	27.7	0.017	-5.2	0.0003	44.8	0.0000	134.8

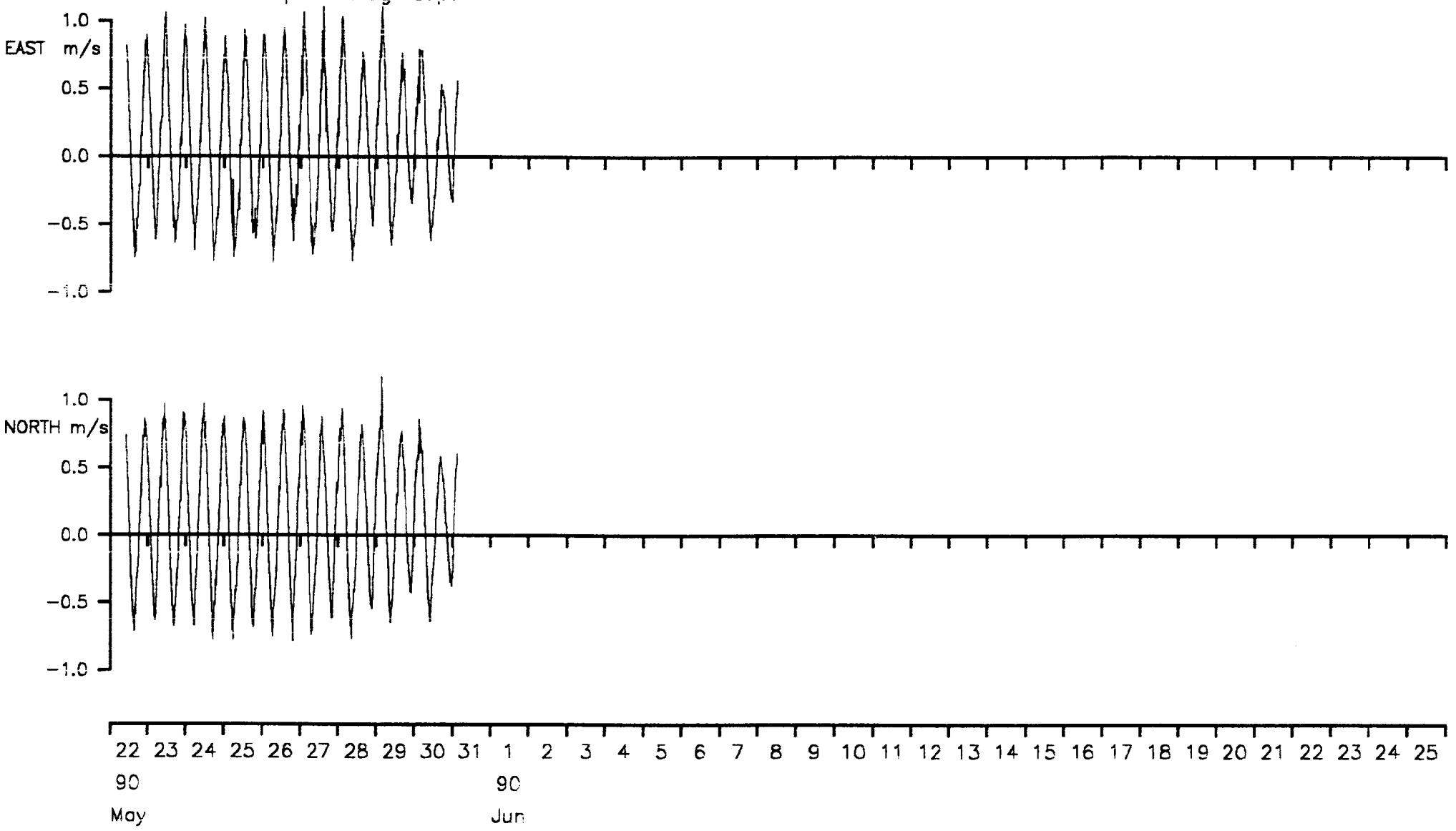
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



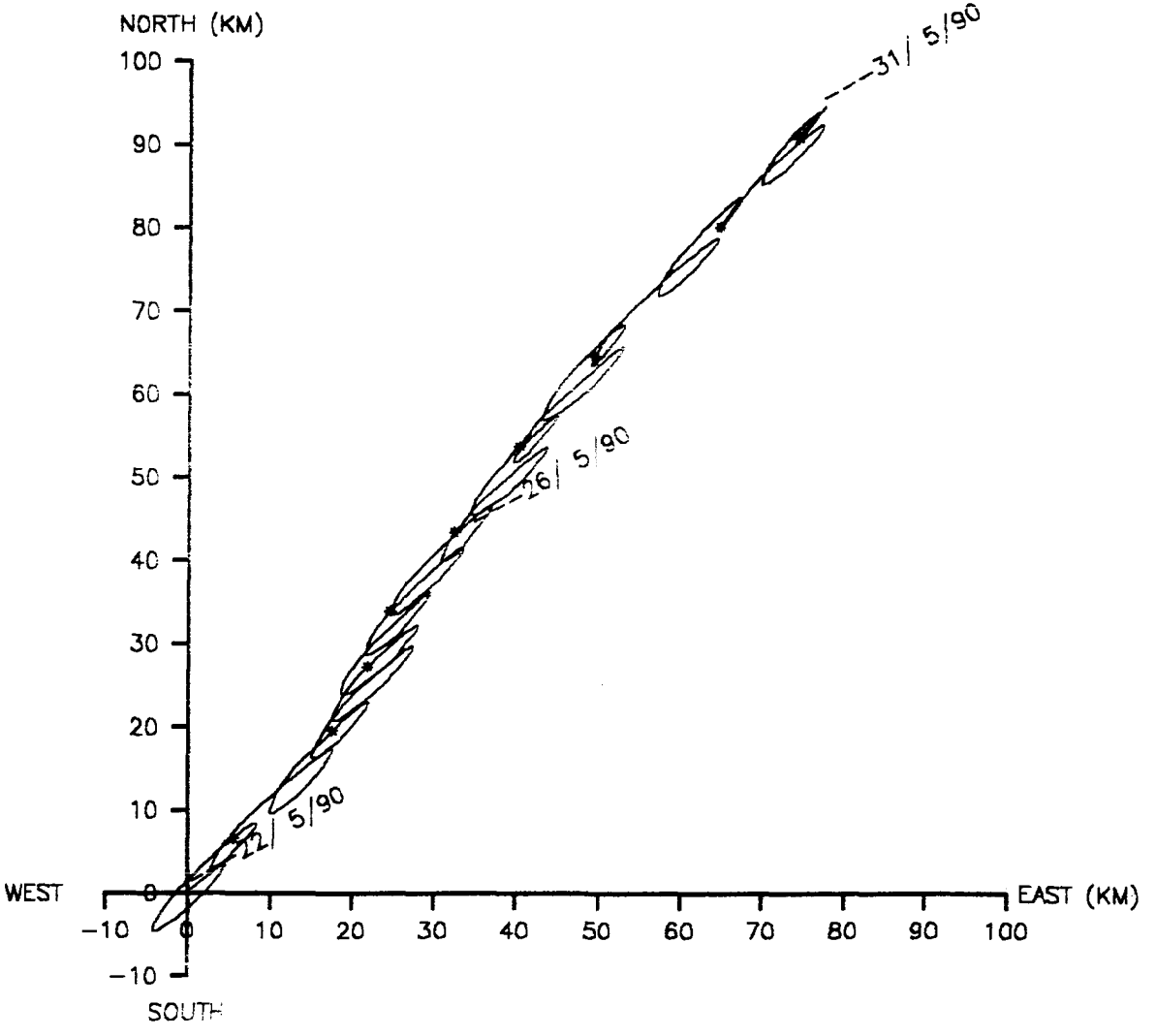
VECTOR PLOT

Meter no. 0004 Rig no. 00424 Depth of water(m) 30.0

Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00

Position 50 55.78N 01 16.31E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 004247 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.1031	0.23374748E+00	0.48347437E+00
Northings	0.1258	0.23421925E+00	0.48396206E+00
Speed	0.6200	0.10978234E+00	0.33133417E+00

Vector mean speed 0.1626
Vector Mean Direction 39.3

Maximum ten values

Eastings					Northings				
1.104	1.103	1.063	1.061	1.053	1.171	1.066	0.982	0.970	0.967
1.053	1.047	1.038	1.028	1.018	0.954	0.932	0.925	0.918	0.915

Minimum ten values

Eastings					Northings				
-0.721	-0.727	-0.739	-0.740	-0.744	-0.719	-0.726	-0.734	-0.747	-0.755
-0.746	-0.766	-0.772	-0.777	-0.786	-0.758	-0.767	-0.774	-0.774	-0.780

Maximum speeds

1.582	1.534	1.436	1.382	1.376	1.358	1.355	1.354	1.350	1.347
1.345	1.342	1.337	1.330	1.323	1.322	1.317	1.314	1.311	1.309
1.297	1.289	1.288	1.286	1.286	1.281	1.280	1.279	1.275	1.275
1.272	1.271	1.267	1.267	1.266	1.263	1.260	1.259	1.259	1.258
1.257	1.257	1.246	1.246	1.240	1.237	1.235	1.234	1.231	1.230
1.229	1.228	1.227	1.226	1.226	1.217	1.216	1.215	1.213	1.213
1.212	1.207	1.207	1.200	1.199	1.197	1.196	1.192	1.191	1.190
1.186	1.184	1.182	1.181	1.181	1.180	1.176	1.174	1.173	1.171
1.167	1.165	1.165	1.163	1.162	1.158	1.153	1.153	1.152	1.151
1.151	1.149	1.140	1.139	1.138	1.137	1.135	1.130	1.130	1.129

Variance ellipse statistics

Maximum variance 0.4576E+00 Direction 45.0

Minimum variance 0.1037E-01 Direction 135.0

Total variance 0.4680E+00 Ratio of variances 0.2266E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -3.0

Average direction. maxdir +PI/2 to maxdir -PI/2 180.7

Statistics for DP0004 004247F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0878	0.63148746E-03	0.25129411E-01
Northings	0.1207	0.26525115E-03	0.16286533E-01
Speed	0.1498	0.74333698E-03	0.27264211E-01

Vector mean speed 0.1493
Vector Mean Direction 36.0

Maximum ten values

Eastings					Northings				
0.112	0.111	0.108	0.105	0.100	0.135	0.134	0.132	0.132	0.129
0.092	0.092	0.087	0.072	0.051	0.126	0.123	0.122	0.113	0.098

Minimum ten values

Eastings					Northings				
0.111	0.108	0.105	0.100	0.092	0.134	0.132	0.132	0.129	0.126
0.092	0.087	0.072	0.051	0.036	0.123	0.122	0.113	0.098	0.084

Maximum speeds

0.175	0.173	0.172	0.166	0.166	0.156	0.154	0.150	0.134	0.111
0.091									

Variance ellipse statistics

Maximum variance 0.8921E-03 Direction 57.2

Minimum variance 0.4634E-05 Direction 147.2

Total variance 0.8967E-03 Ratio of variances 0.5195E-02

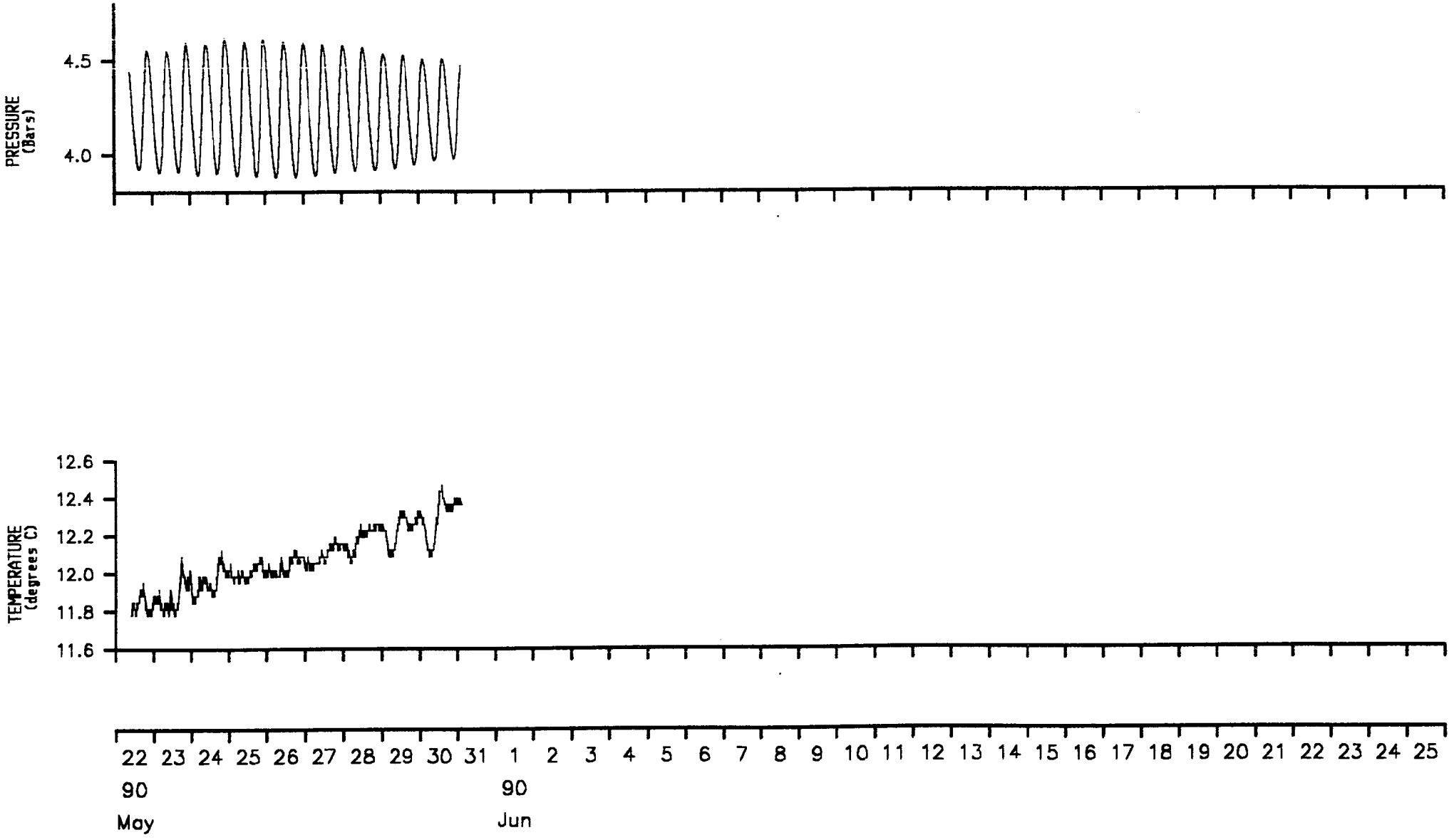
Average direction. maxdir -PI/2 to maxdir +PI/2 -22.1

Average direction. maxdir +PI/2 to maxdir -PI/2 0.0

Meter information details for 1038

Rig No	:	00424
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	21-MAY-90 14:50:40
Time of last valid scan	:	15-JUNE-90 16:00:45
Period of good data	:	8.7 days short record
Total number of scans	:	1256
Timing error	:	5 seconds slow
Comments	:	Good record obtained until meter damage occurred

Meter no. 1038 Rig no. 00424 Depth of water(m) 30.0
Start/End 1990/05/22 AT 10:30:00 1990/06/15 AT 09:35:00
Position 50 55.78N 01 16.31E Meter Height(m) 0.5



Rig information details for 00426

Position Latitude	:	50 46.71N
Position Longitude	:	01 13.91E
Water depth	:	25.0 m
Deployed on cruise	:	C66
Recovered on cruise	:	C66B
Site name identification	:	B
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	22-MAY-90 12:35:00
Rig recovered on	:	14-JUNE-90 08:35:00
Period of deployment	:	22.8 days
Comments	:	Launch and recovery successful

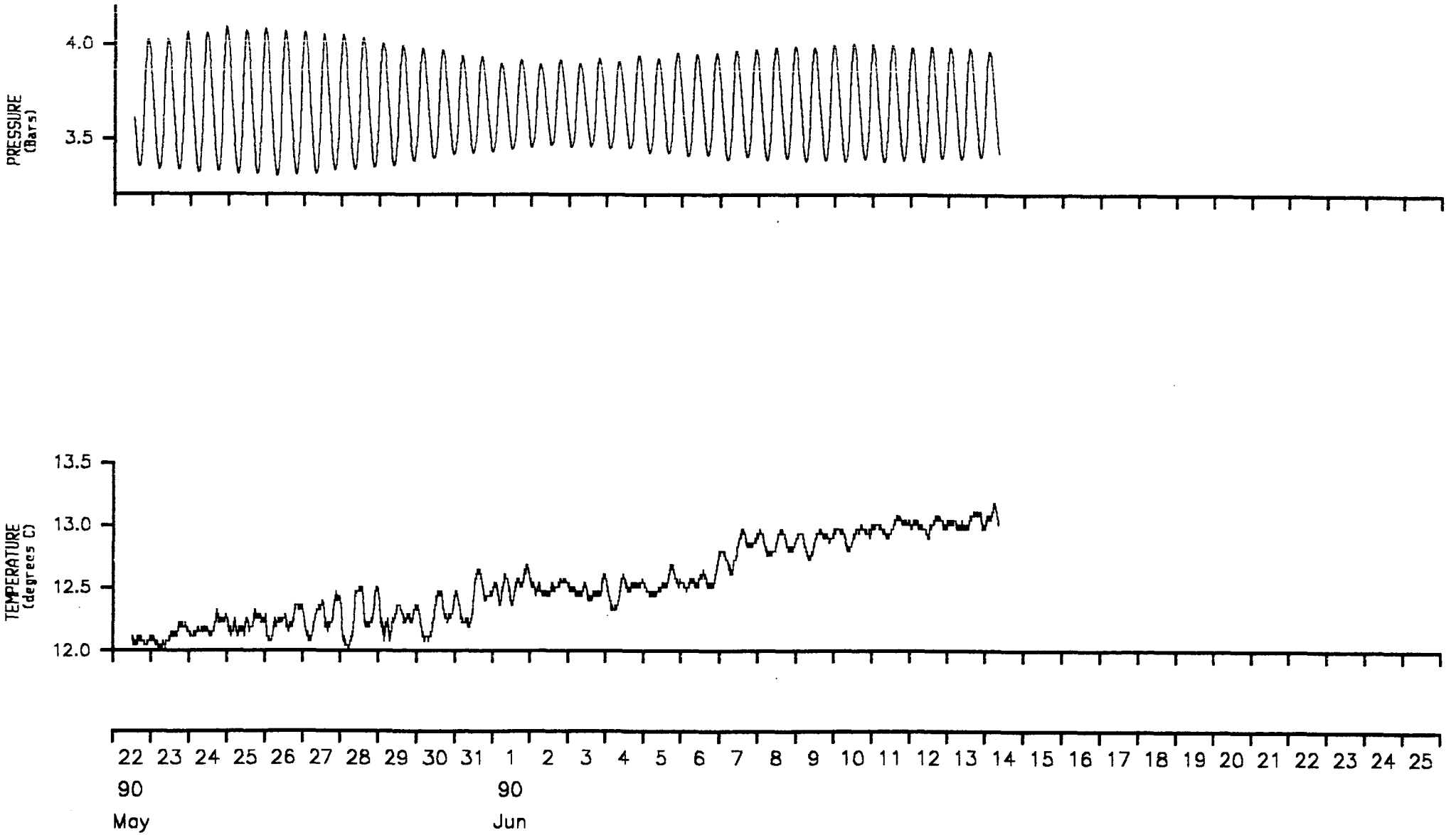
Meter information details for 0009

Rig No	:	00426
Meter No	:	0009
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	No data present on tape

Meter information details for 1042

Rig No	:	00426
Meter No	:	1042
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	21-MAY-90 14:20:40
Meter stopped	:	14-JUNE-90 09:20:54
Period switched on	:	23.8 days
Period of good data	:	22.8 days
Total number of scans	:	3288
Timing error	:	14 seconds slow
Comments	:	Good record obtained

Meter no. 1042 Rig no. 00426 Depth of water(m) 25.0
Start/End 1990/05/22 AT 12:35:00 1990/06/14 AT 08:35:00
Position 50 46.71N 01 13.91E Meter Height(m) 0.5



Rig information details for 00428

Position Latitude	:	50 52.08N
Position Longitude	:	01 32.00E
Water depth	:	33.0 m
Deployed on cruise	:	C66
Recovered on cruise	:	C66B
Site name identification	:	C
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	22-MAY-90 23:00:00
Rig recovered on	:	14-JUNE-90 14:55:00
Period of deployment	:	22.7 days
Comments	:	Launch and recovery successful

Meter information details for 0010

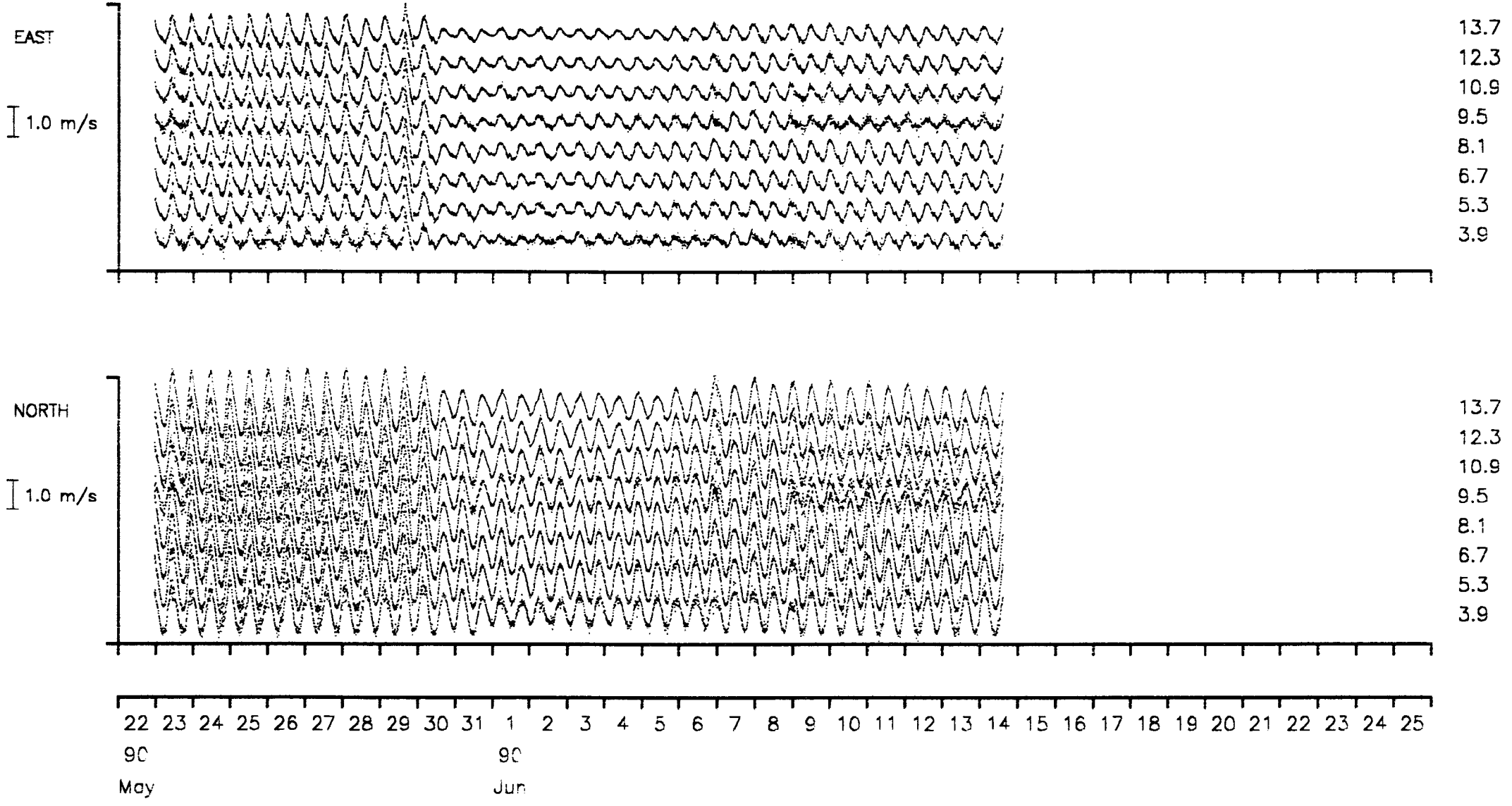
Rig No	:	00428
Meter No	:	0010
Frame angle correction	:	50.1 degrees
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Meter type	:	DP
Meter started	:	22-MAY-90 20:58:51
Meter stopped	:	14-JUNE-90 15:08:48
Period switched on	:	22.8 days
Period of good data	:	22.7 days
Total number of scans	:	3263
Timing error	:	3 seconds fast
Comments	:	Good record obtained
		Channel 1 recording Beam 2 and vice versa

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

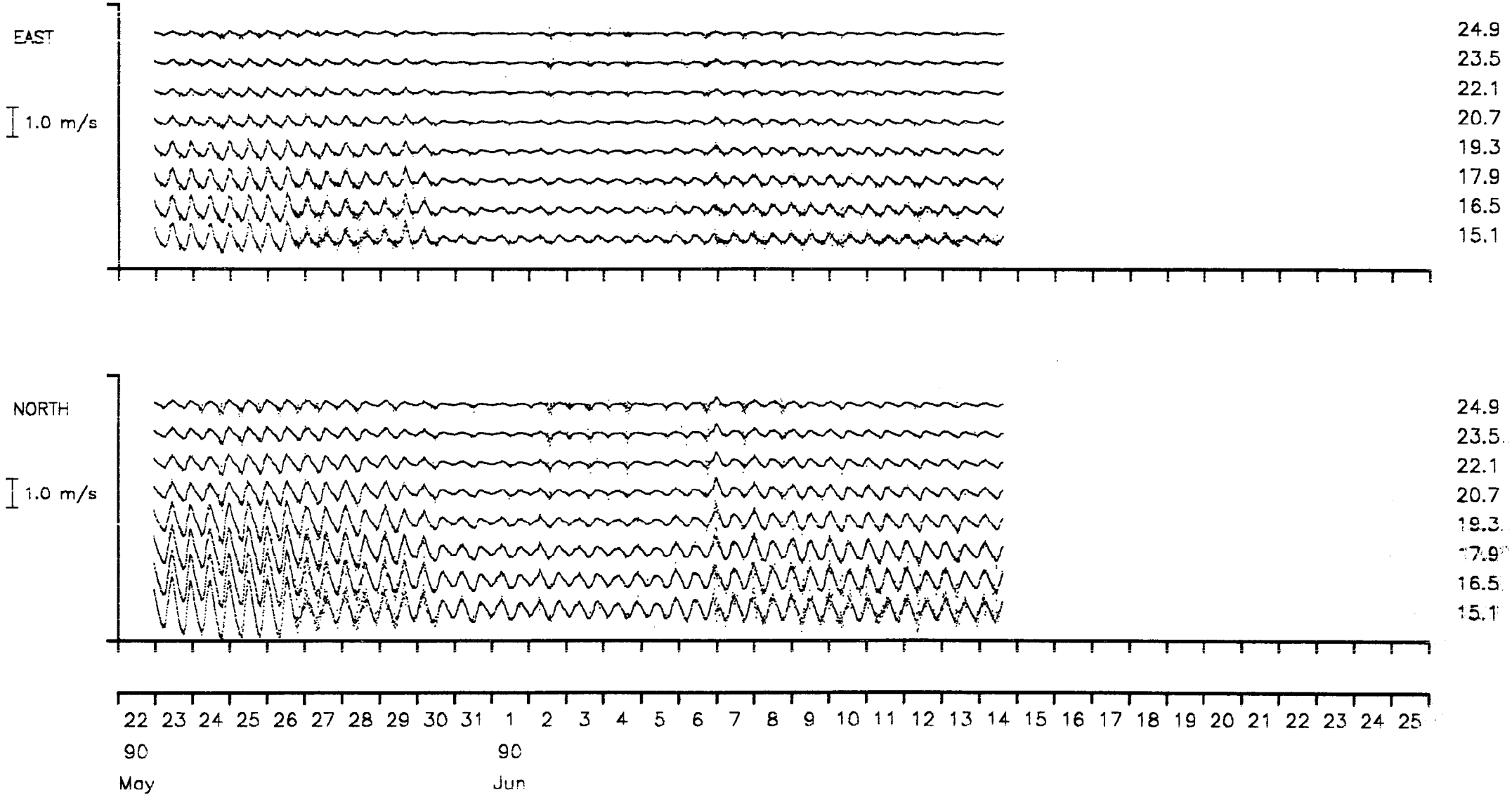


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht



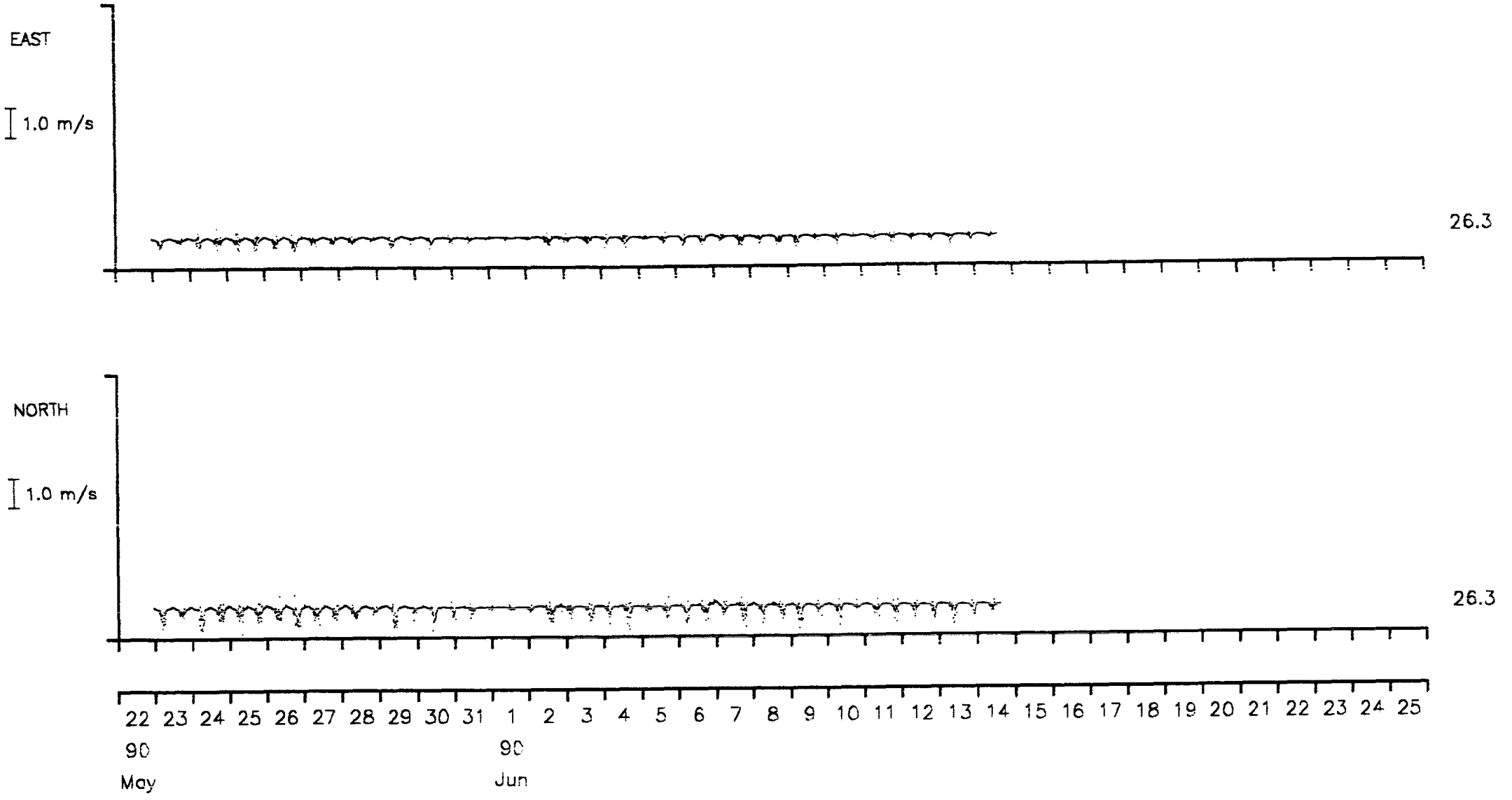
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

Bin Ht (m)

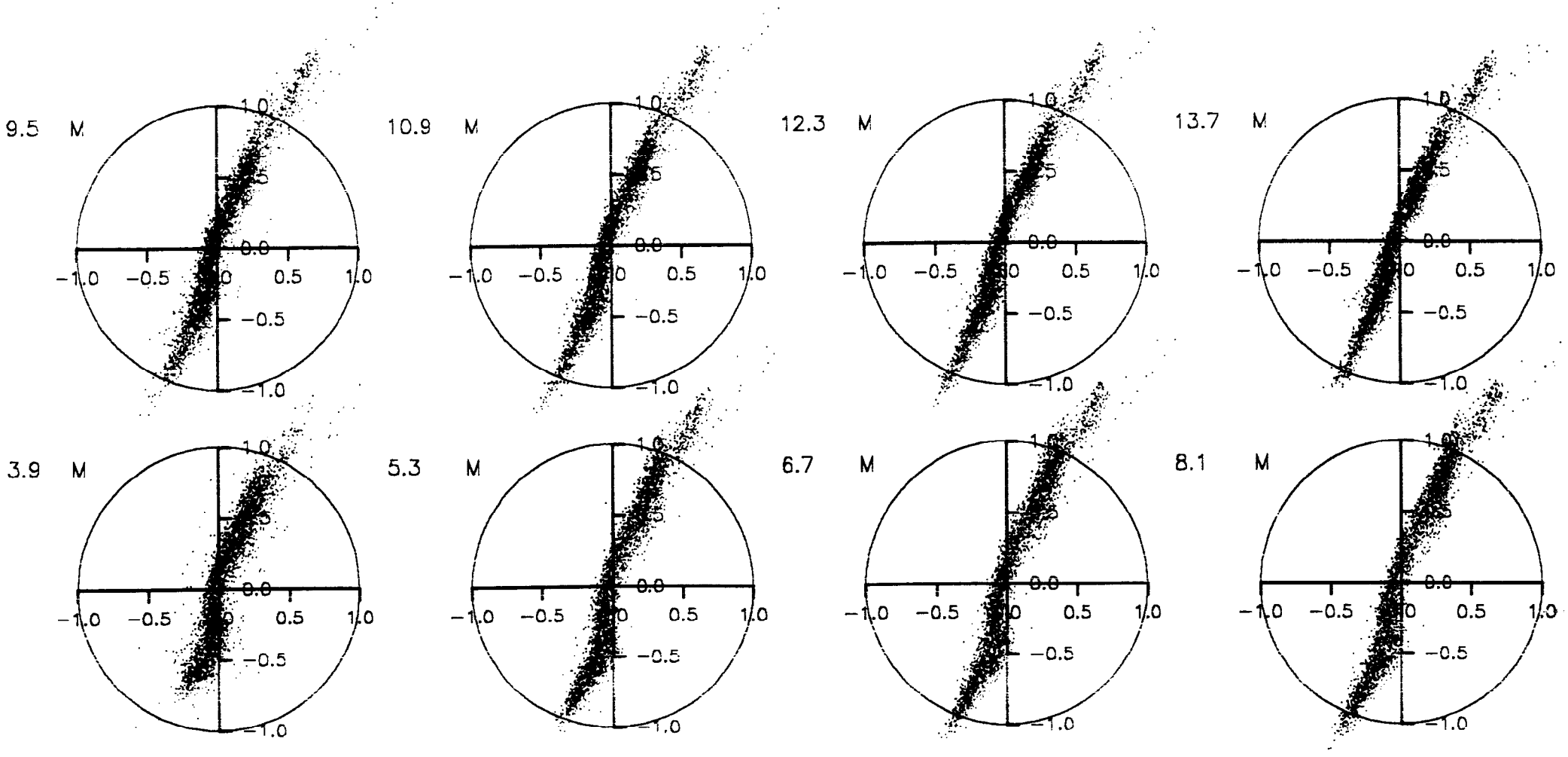


SCATTER PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

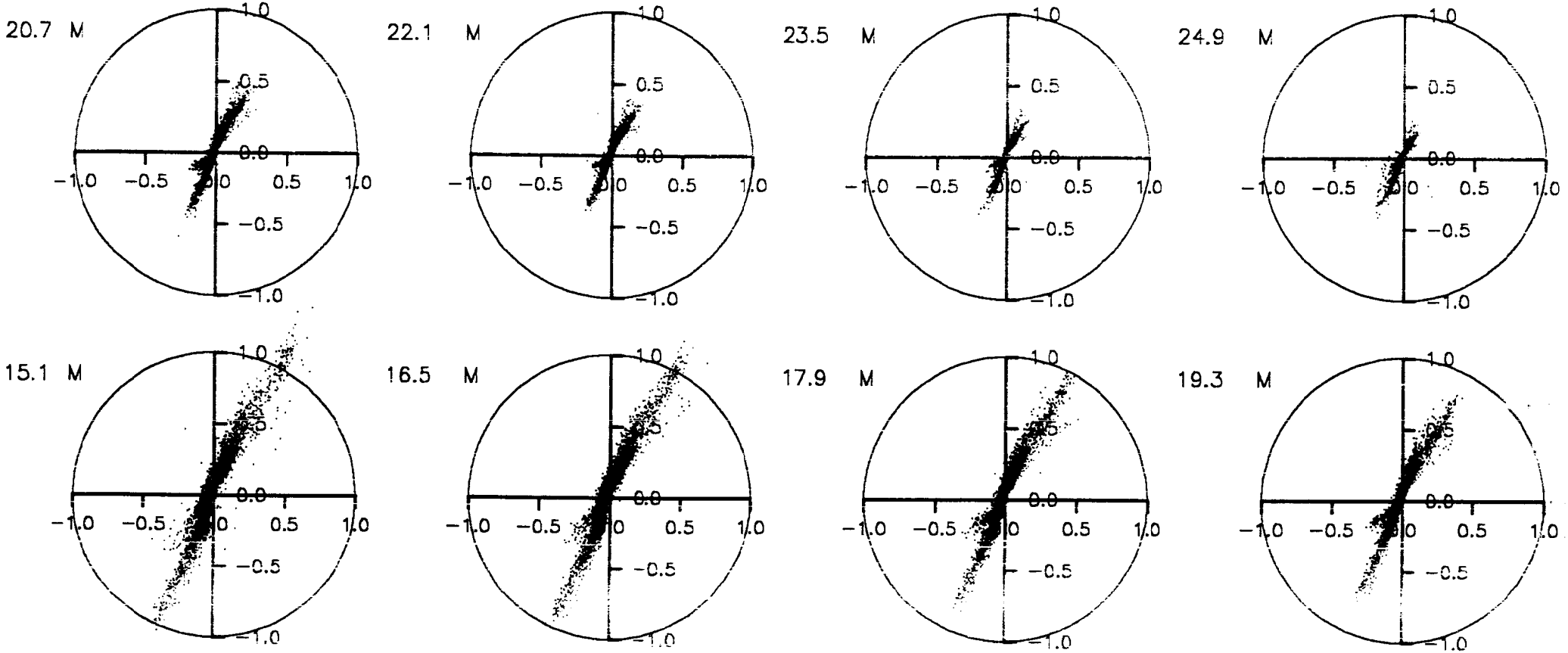


SCATTER PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

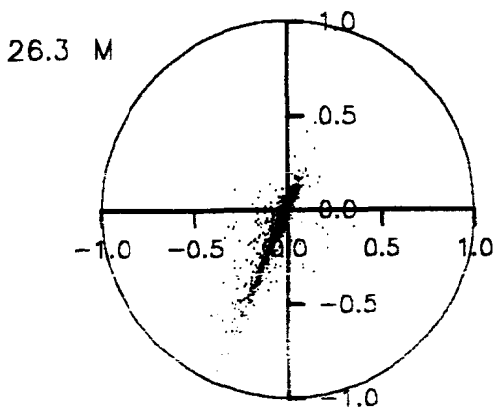


SCATTER PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

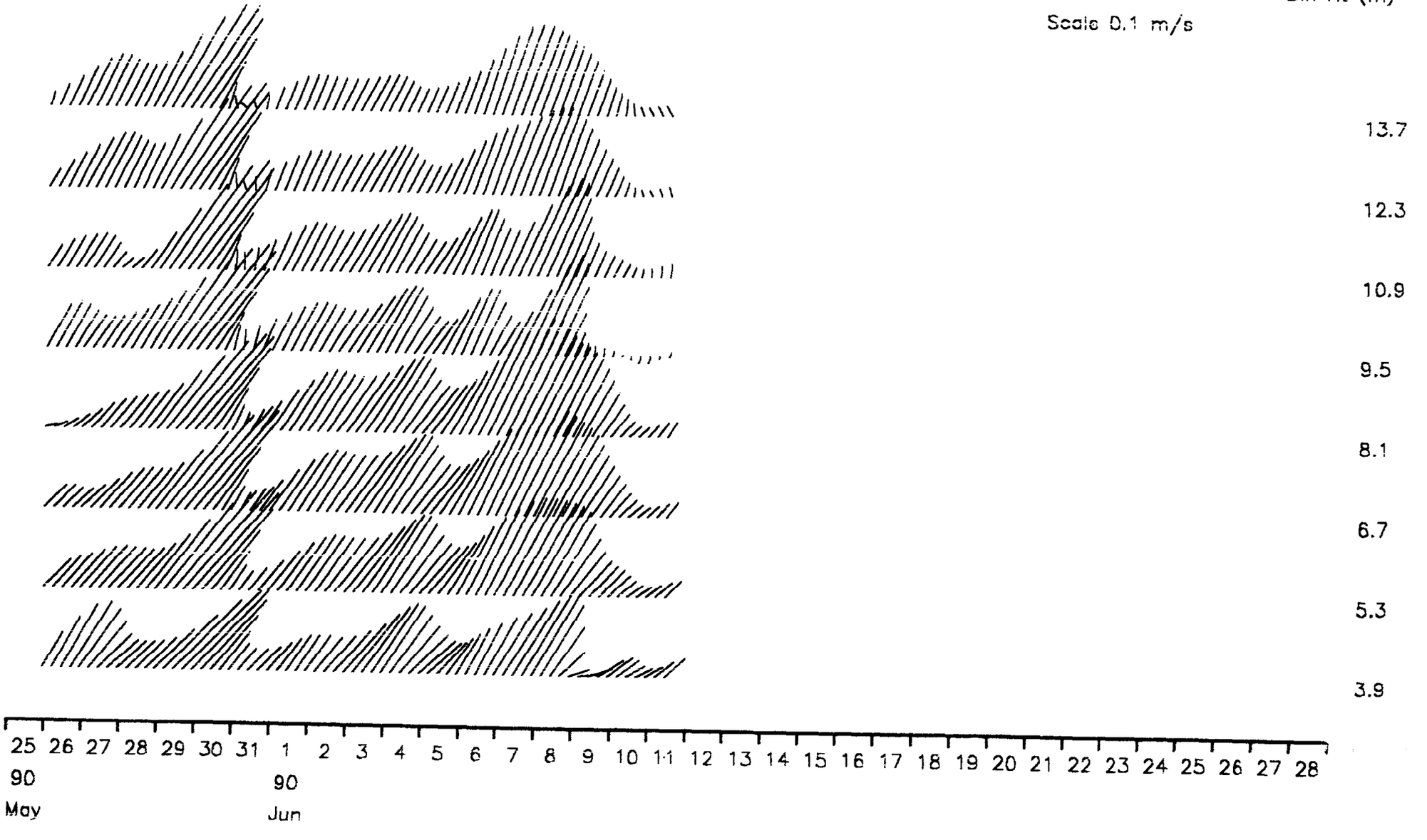


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

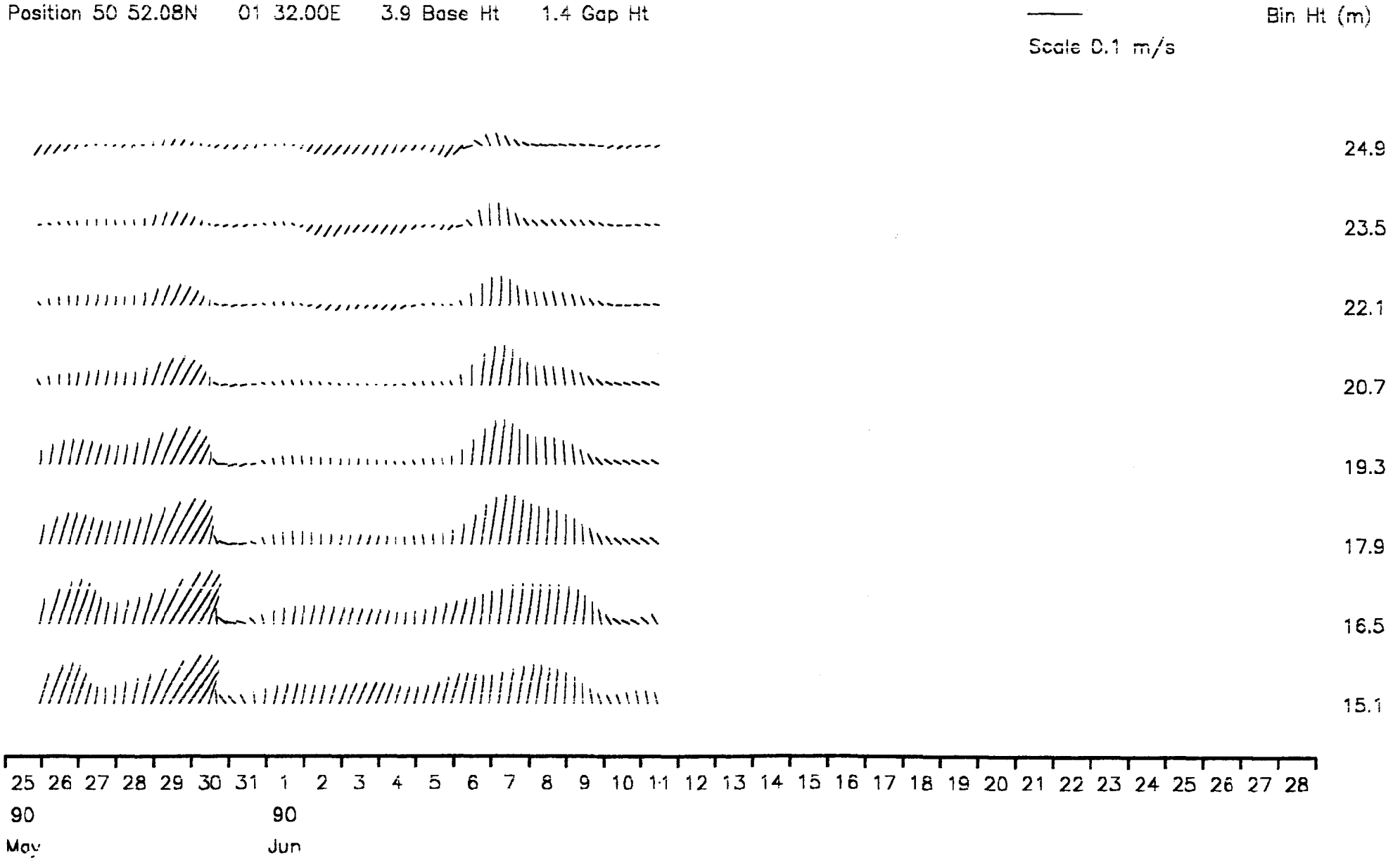


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

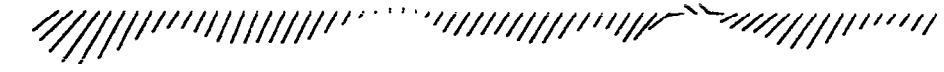
Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



26.3

25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

90 90

May Jun

STATISTICS FOR DP0010 00428

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.088	39.9	0.2438	19.0	0.0057	109.0
2	5.3	0.106	36.9	0.4074	20.3	0.0049	110.3
3	6.7	0.100	34.9	0.4607	21.1	0.0048	111.1
4	8.1	0.093	32.8	0.4703	21.6	0.0045	111.6
5	9.5	0.079	29.2	0.3105	22.4	0.0043	112.4
6	10.9	0.078	26.7	0.3571	22.6	0.0037	112.6
7	12.3	0.079	23.7	0.3642	23.0	0.0033	113.0
8	13.7	0.070	20.3	0.3258	23.4	0.0028	113.4
9	15.1	0.040	10.3	0.1398	24.0	0.0020	114.0
10	16.5	0.038	6.6	0.1265	24.1	0.0015	114.1
11	17.9	0.032	3.3	0.0940	24.4	0.0011	114.4
12	19.3	0.024	-2.4	0.0615	24.6	0.0008	114.6
13	20.7	0.015	-12.2	0.0284	24.6	0.0004	114.6
14	22.1	0.009	-27.7	0.0165	24.6	0.0003	114.6
15	23.5	0.006	-67.5	0.0098	24.8	0.0002	114.8
16	24.9	0.010	-120.3	0.0072	25.8	0.0002	115.8
17	26.3	0.037	-147.4	0.0187	25.1	0.0007	115.1

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.101	39.9	0.0020	30.9	0.0002	120.9
2	5.3	0.125	36.2	0.0030	30.1	0.0001	120.1
3	6.7	0.125	34.4	0.0037	28.2	0.0002	118.2
4	8.1	0.119	32.7	0.0041	27.5	0.0001	117.5
5	9.5	0.097	30.4	0.0035	33.2	0.0001	123.2
6	10.9	0.093	28.4	0.0031	32.3	0.0001	122.3
7	12.3	0.095	25.4	0.0030	31.2	0.0001	121.2
8	13.7	0.087	22.6	0.0031	29.7	0.0001	119.7
9	15.1	0.045	14.2	0.0005	35.8	0.0001	125.8
10	16.5	0.044	11.0	0.0008	31.1	0.0001	121.1
11	17.9	0.037	8.2	0.0008	24.2	0.0001	114.2
12	19.3	0.028	3.5	0.0006	21.4	0.0001	111.4
13	20.7	0.019	-2.6	0.0004	19.2	0.0000	109.2
14	22.1	0.012	-15.1	0.0003	17.2	0.0000	107.2
15	23.5	0.007	-53.1	0.0002	16.6	0.0000	106.6
16	24.9	0.009	-113.5	0.0001	18.9	0.0000	108.9
17	26.3	0.034	-144.8	0.0004	27.5	0.0000	117.5

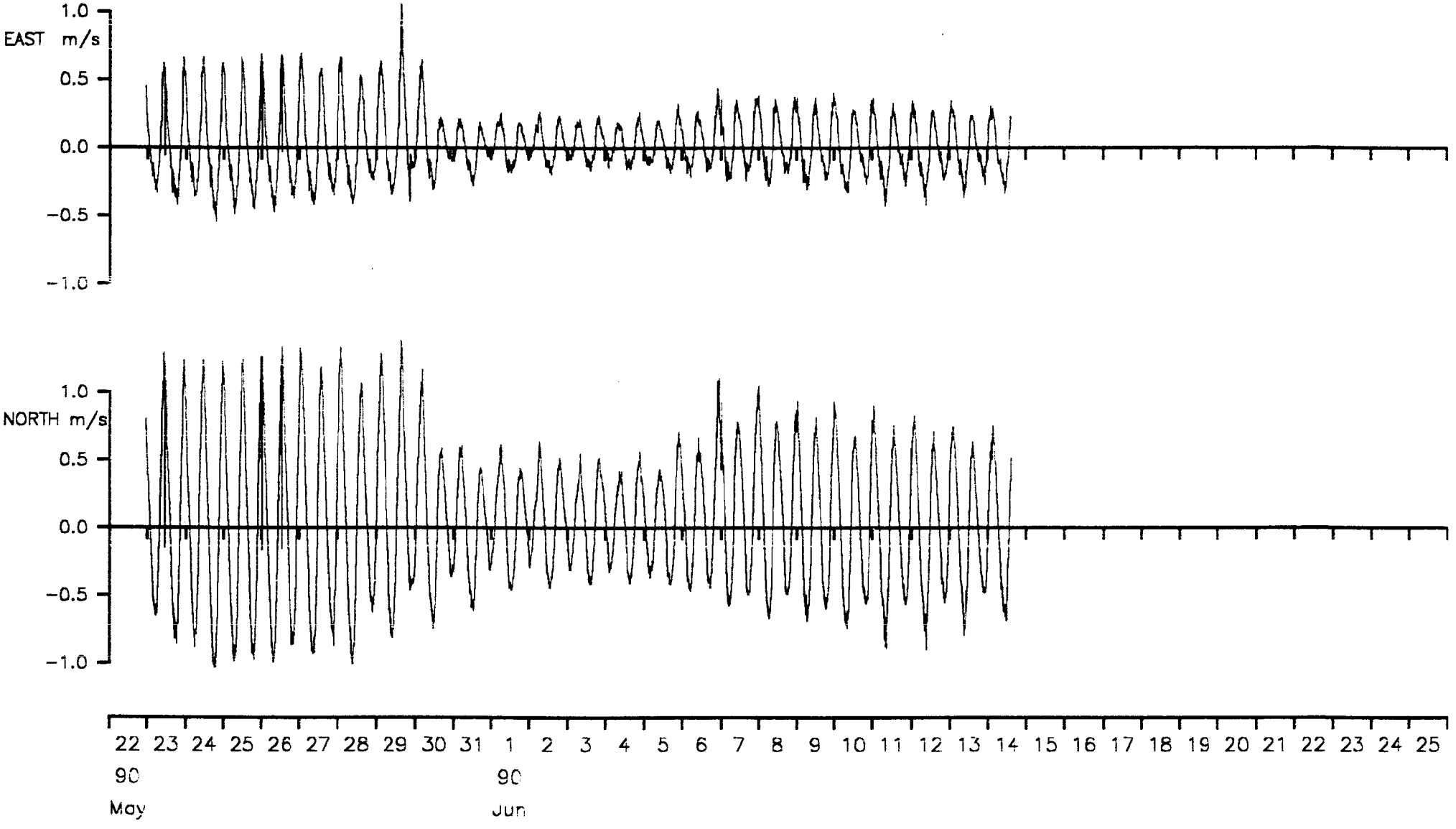
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht 13.7 Bin Ht (m)

Bin closest to depth average depth



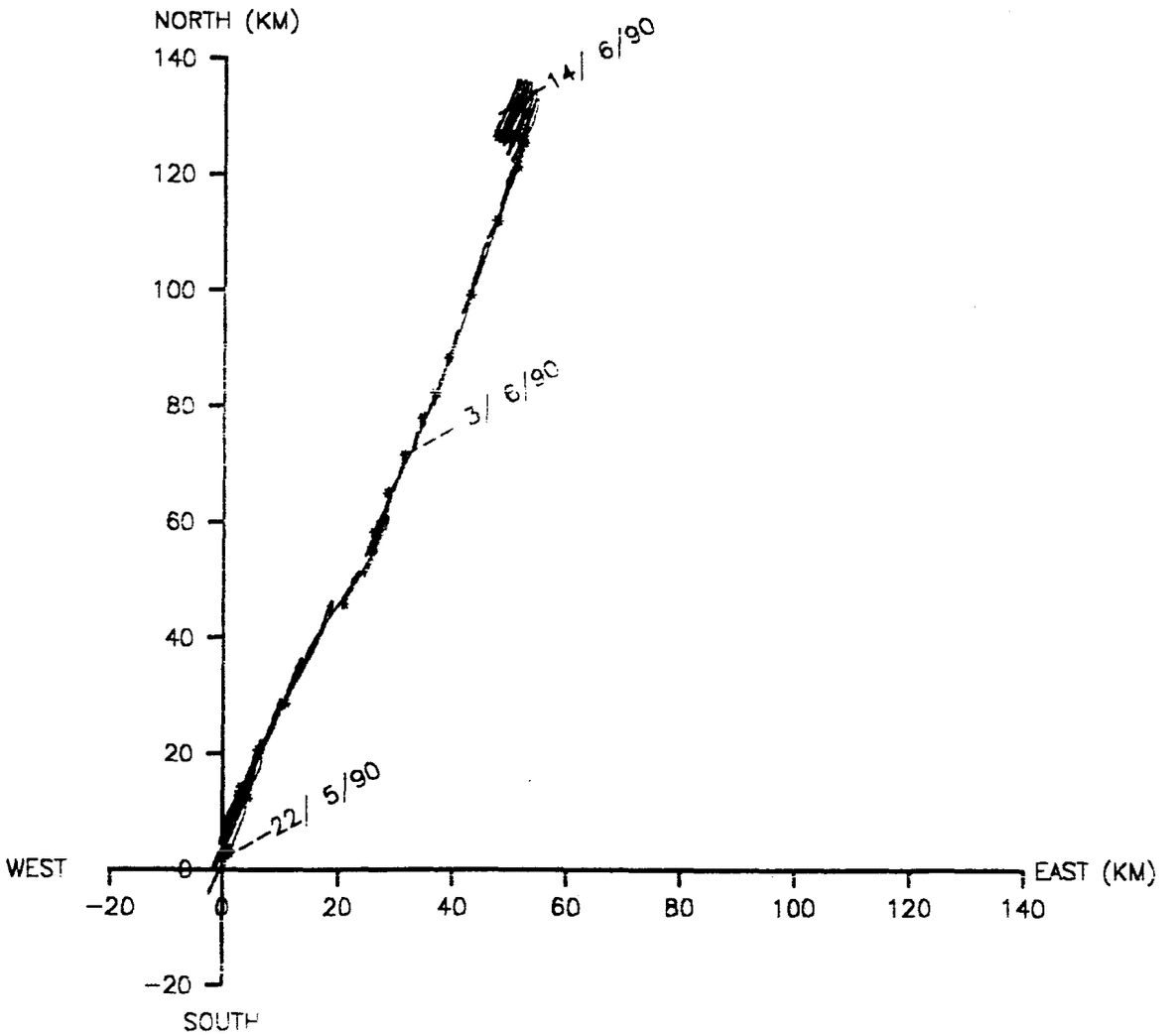
VECTOR PLOT

Meter no. 0010 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E 3.9 Base Ht 1.4 Gap Ht 13.7 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004288 A
Doppler bin number 8

	Mean	Variance	Standard deviation
Eastings	0.0244	0.53788938E-01	0.23192441E+00
Northings	0.0659	0.27473044E+00	0.52414733E+00
Speed	0.4850	0.98238468E-01	0.31343013E+00

Vector mean speed 0.0703
Vector Mean Direction 20.3

Maximum ten values

Eastings					Northings				
1.052	0.998	0.926	0.923	0.917	1.377	1.374	1.332	1.332	1.329
0.822	0.796	0.713	0.707	0.694	1.322	1.321	1.290	1.288	1.284

Minimum ten values

Eastings					Northings				
-0.450	-0.451	-0.451	-0.452	-0.457	-0.982	-0.986	-0.994	-1.003	-1.006
-0.469	-0.484	-0.484	-0.486	-0.543	-1.012	-1.014	-1.026	-1.030	-1.033

Maximum speeds

1.698	1.695	1.655	1.613	1.559	1.492	1.488	1.479	1.457	1.439
1.437	1.430	1.428	1.425	1.425	1.421	1.420	1.412	1.410	1.407
1.399	1.397	1.388	1.385	1.385	1.383	1.382	1.382	1.382	1.379
1.377	1.377	1.376	1.375	1.374	1.374	1.374	1.373	1.371	1.365
1.362	1.361	1.358	1.358	1.357	1.355	1.354	1.352	1.349	1.336
1.335	1.334	1.333	1.330	1.329	1.326	1.325	1.321	1.321	1.321
1.318	1.316	1.314	1.312	1.307	1.304	1.299	1.293	1.293	1.292
1.291	1.286	1.283	1.283	1.281	1.277	1.277	1.274	1.273	1.271
1.270	1.268	1.267	1.265	1.265	1.265	1.264	1.264	1.264	1.261
1.260	1.256	1.255	1.255	1.251	1.244	1.242	1.239	1.239	1.238

Variance ellipse statistics

Maximum variance 0.3258E+00 Direction 23.4

Minimum variance 0.2760E-02 Direction 113.4

Total variance 0.3285E+00 Ratio of variances 0.8472E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 -7.0

Average direction. maxdir +PI/2 to maxdir -PI/2 183.2

Statistics for DP0010 004288F A
Doppler bin number 8

	Mean	Variance	Standard deviation
Eastings	0.0334	0.83468342E-03	0.28890893E-01
Northings	0.0803	0.23383026E-02	0.48355997E-01
Speed	0.0881	0.29651793E-02	0.54453459E-01

Vector mean speed 0.0869
Vector Mean Direction 22.6

Maximum ten values

Eastings					Northings				
0.127	0.119	0.115	0.097	0.086	0.193	0.192	0.171	0.170	0.169
0.072	0.058	0.058	0.056	0.054	0.167	0.164	0.159	0.149	0.148

Minimum ten values

Eastings					Northings				
0.004	0.003	-0.002	-0.006	-0.007	0.026	0.025	0.022	0.021	0.019
-0.007	-0.008	-0.010	-0.010	-0.013	0.017	0.017	0.016	0.015	0.011

Maximum speeds

0.230	0.226	0.204	0.196	0.180	0.176	0.173	0.168	0.158	0.156
0.155	0.154	0.148	0.137	0.131	0.123	0.117	0.109	0.107	0.107
0.106	0.099	0.099	0.099	0.094	0.090	0.090	0.087	0.086	0.082
0.076	0.075	0.072	0.072	0.071	0.071	0.070	0.070	0.067	0.067
0.066	0.065	0.065	0.062	0.061	0.061	0.056	0.055	0.054	0.052
0.050	0.049	0.047	0.043	0.043	0.040	0.029	0.027	0.026	0.023
0.021	0.021	0.020	0.018	0.018	0.017	0.017			

Variance ellipse statistics

Maximum variance 0.3066E-02 Direction 29.7

Minimum variance 0.1073E-03 Direction 119.7

Total variance 0.3173E-02 Ratio of variances 0.3500E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -12.8

Average direction. maxdir +PI/2 to maxdir -PI/2 0.0

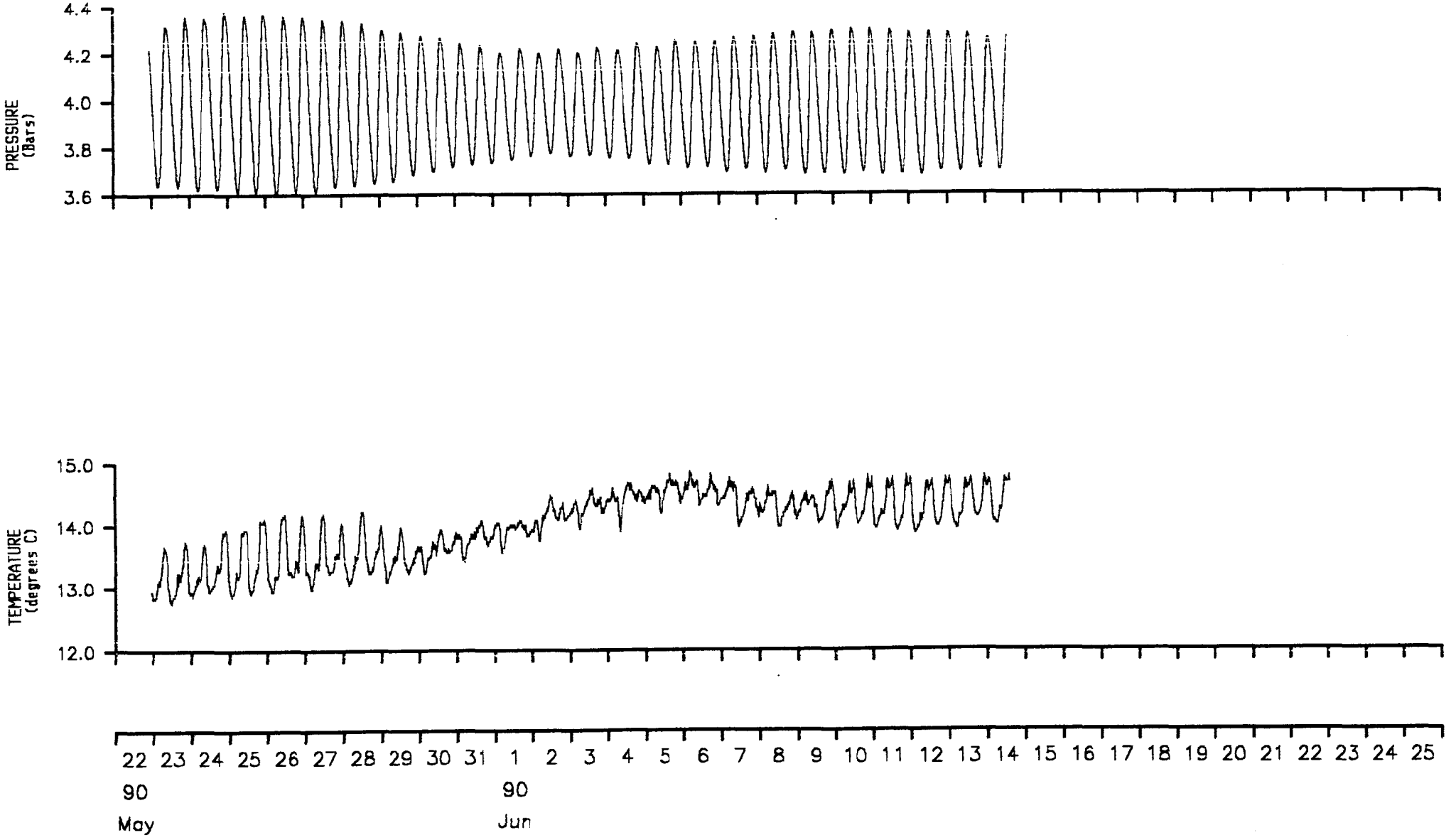
Meter information details for 0915

Rig No	:	00428
Meter No	:	0915
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	21-MAY-90 13:30:40
Meter stopped	:	14-JUNE-90 20:20:51
Period switched on	:	24.3 days
Period of good data	:	22.7 days
Total number of scans	:	3264
Timing error	:	11 seconds slow
Comments	:	Good record obtained
		Tidal signal present in temperature data

Meter no. 0915 Rig no. 00428 Depth of water(m) 33.0

Start/End 1990/05/22 AT 23:00:00 1990/06/14 AT 14:55:00

Position 50 52.08N 01 32.00E Meter Height(m) 0.8



Rig information details for 00434

Position Latitude	:	50 55.87N
Position Longitude	:	01 16.47E
Water depth	:	30.0 m
Deployed on cruise	:	C66B
Recovered on cruise	:	ZIERIKE
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	15-JUNE-90 12:18:00
Rig recovered on	:	18-JULY-90 12:00:00
Period of deployment	:	33.0 days
Comments	:	Suspected trawling incident

Meter information details for 0010

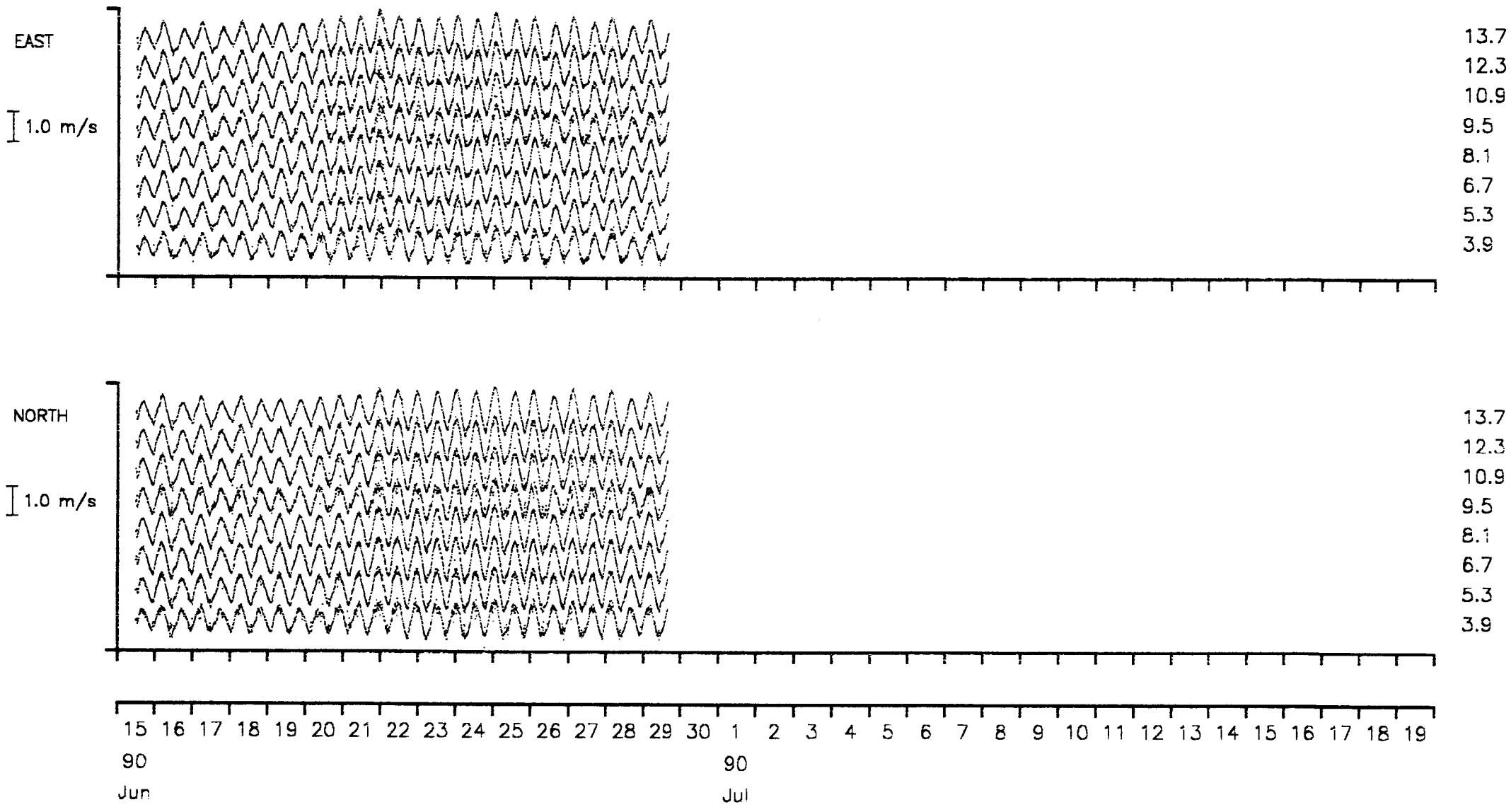
Rig No	:	00434
Meter No	:	0010
Frame angle correction	:	110.1 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	15-JUNE-90 09:08:41
Time of last valid scan	:	29-JUNE-90 15:58:50
Period of good data	:	14.2 days short record
Total number of scans	:	2039
Timing error	:	9 seconds slow
Comments	:	Beam 2 transducer lead disconnected from recorder on the 29-JUNE-90 Channel 1 recording Beam 2 and vice versa

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

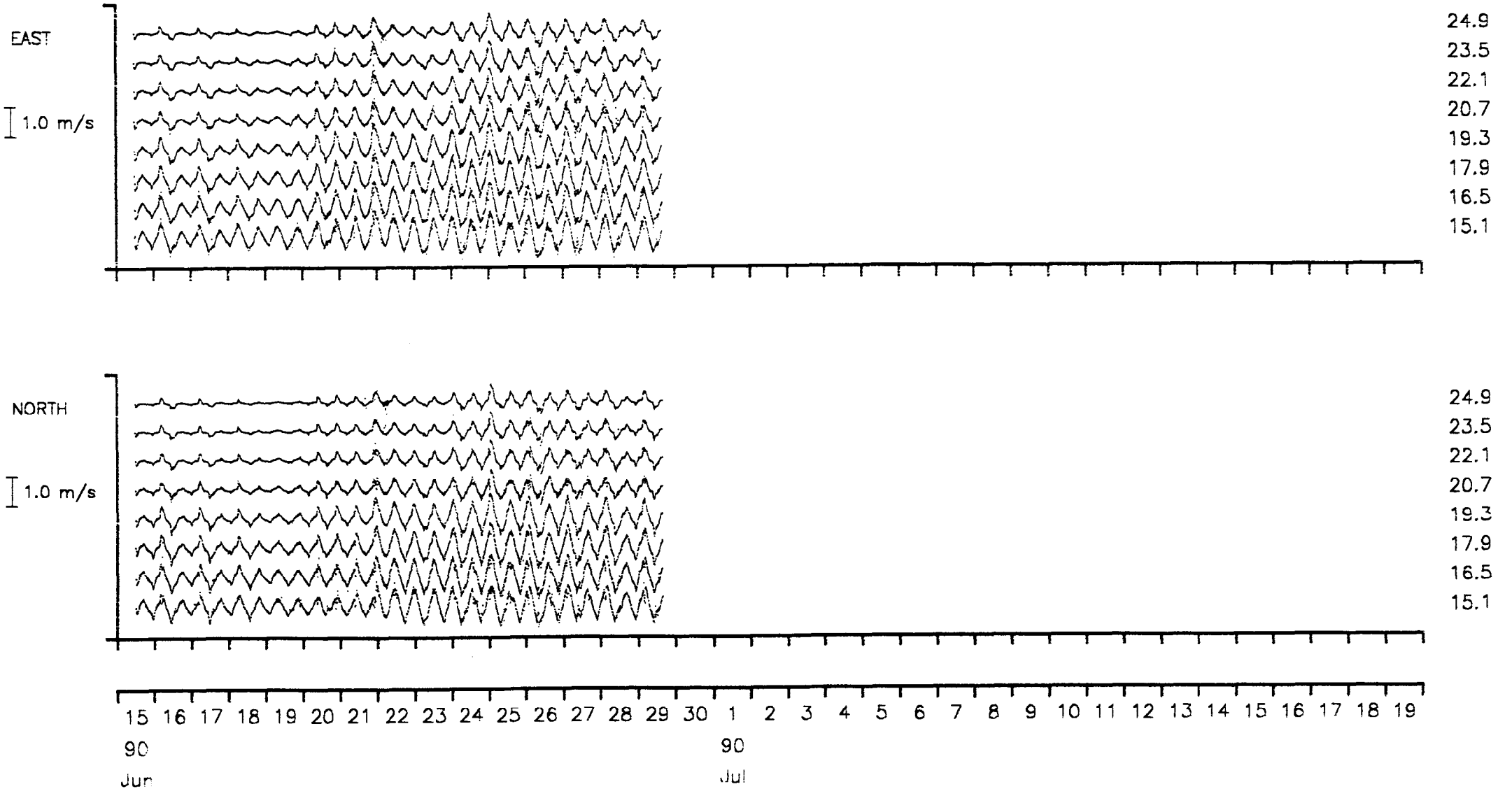


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

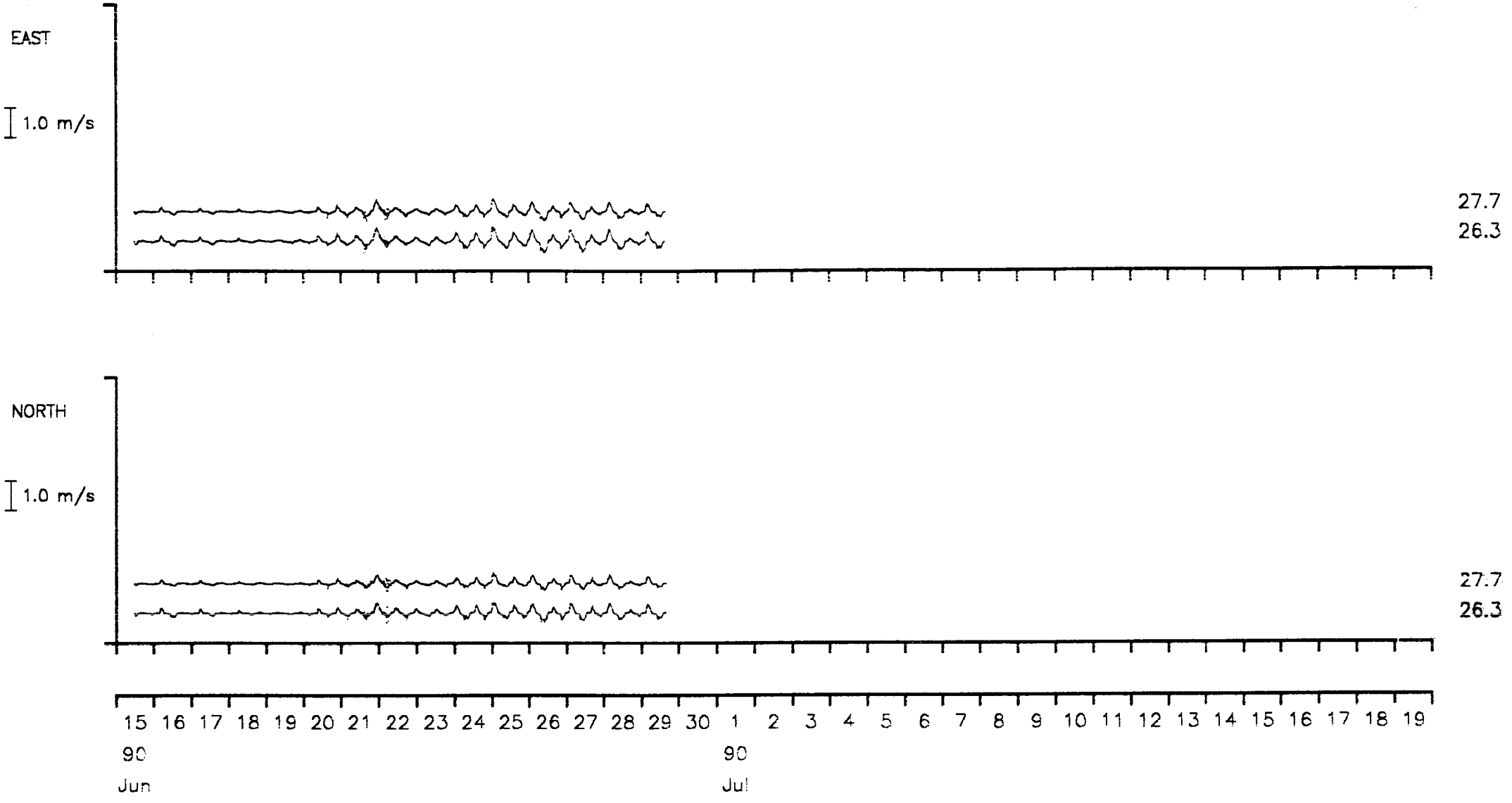


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

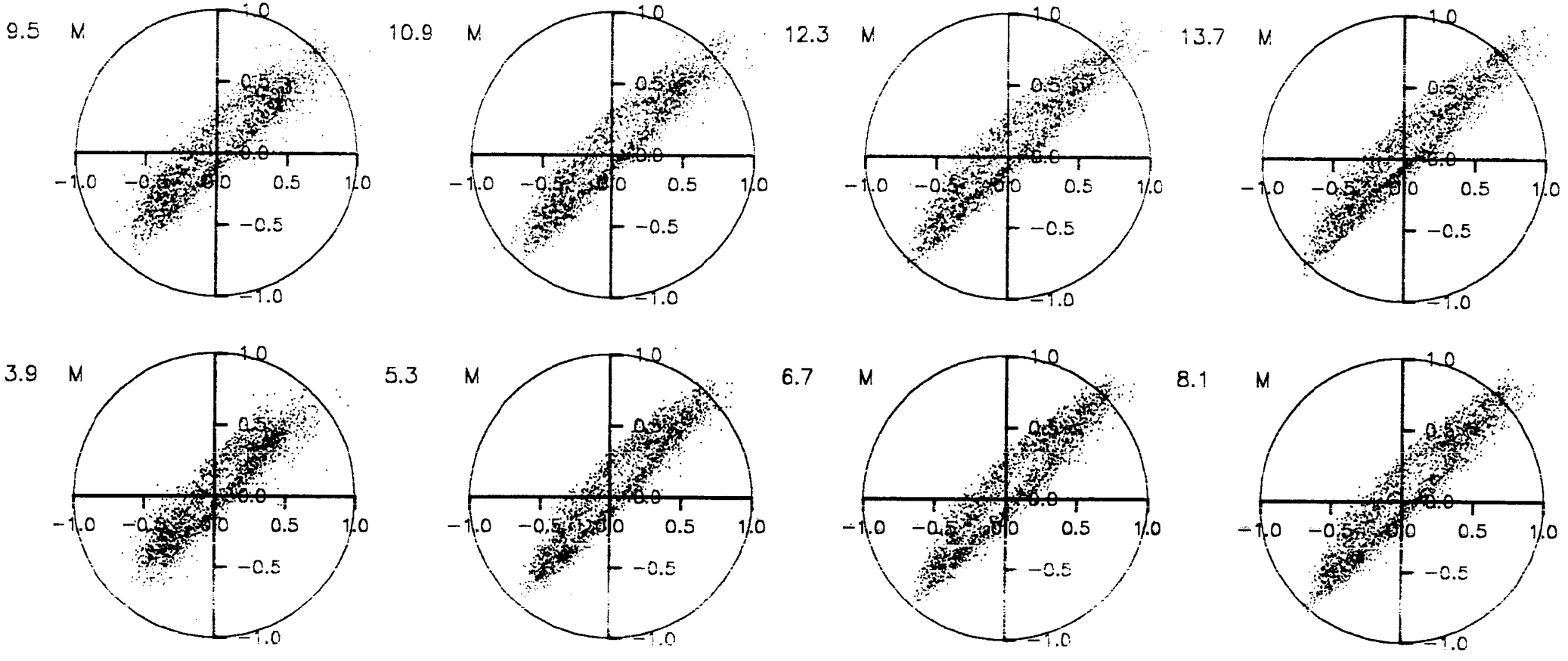


SCATTER PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

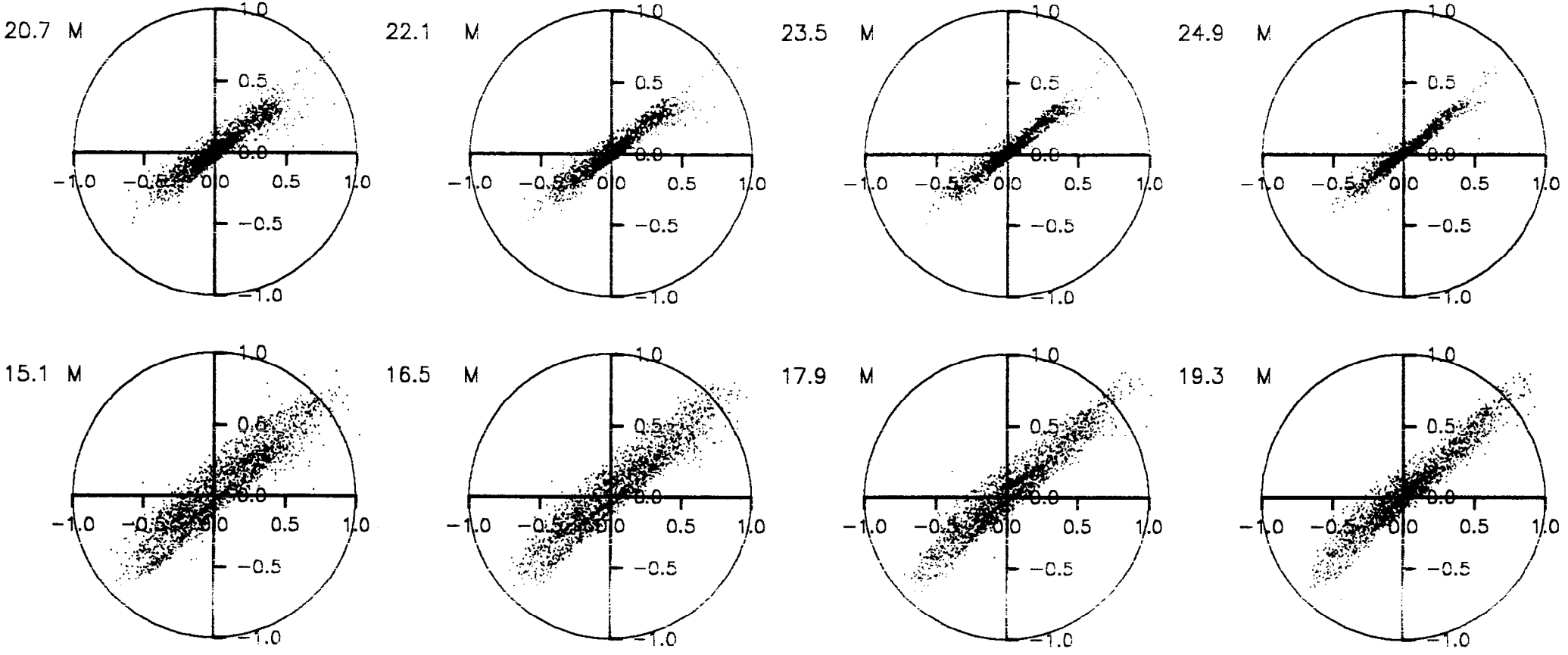


SCATTER PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

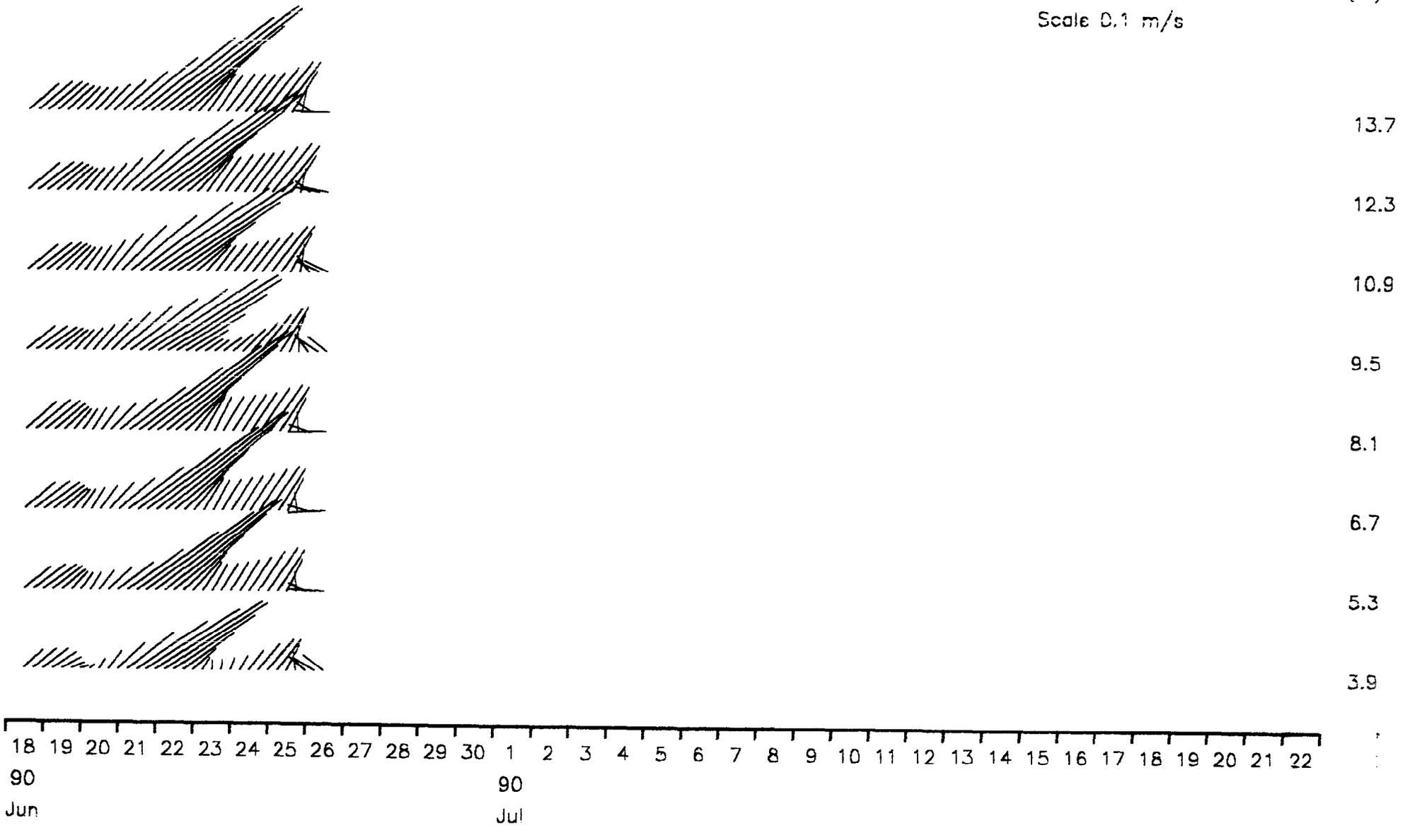


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

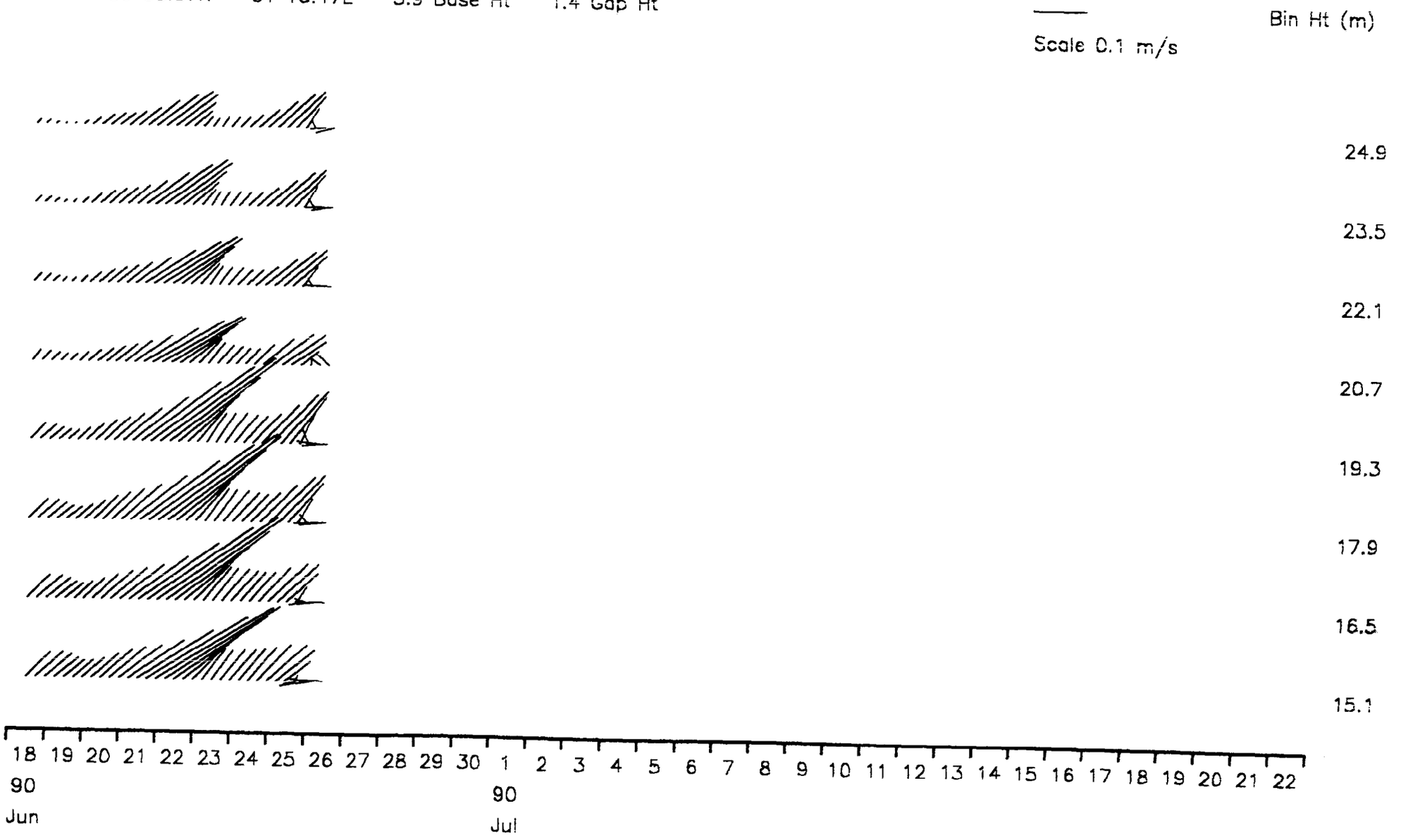


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s

STATISTICS FOR DP0010 00434

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.042	37.2	0.2007	44.9	0.0088	134.9
2	5.3	0.058	35.8	0.2691	42.8	0.0075	132.8
3	6.7	0.062	35.1	0.2958	42.5	0.0077	132.5
4	8.1	0.065	35.4	0.3093	43.0	0.0080	133.0
5	9.5	0.063	39.1	0.2327	46.8	0.0102	136.8
6	10.9	0.068	38.2	0.2791	45.5	0.0088	135.5
7	12.3	0.072	38.1	0.3037	45.0	0.0082	135.0
8	13.7	0.072	37.9	0.2970	45.0	0.0073	135.0
9	15.1	0.065	42.4	0.1875	48.6	0.0074	138.6
10	16.5	0.064	40.8	0.1964	48.5	0.0059	138.5
11	17.9	0.063	40.2	0.1856	48.1	0.0042	138.1
12	19.3	0.058	39.6	0.1602	48.0	0.0031	138.0
13	20.7	0.040	44.7	0.0711	53.8	0.0023	143.8
14	22.1	0.035	43.4	0.0640	53.3	0.0014	143.3
15	23.5	0.030	41.2	0.0514	52.5	0.0010	142.5
16	24.9	0.024	41.0	0.0374	51.6	0.0006	141.6
17	26.3	0.016	40.0	0.0226	51.7	0.0004	141.7
18	27.7	0.011	33.8	0.0153	51.5	0.0004	141.5

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.065	47.0	0.0048	62.6	0.0001	152.6
2	5.3	0.087	43.7	0.0064	58.2	0.0001	148.2
3	6.7	0.094	42.6	0.0071	56.9	0.0001	146.9
4	8.1	0.097	42.6	0.0074	57.4	0.0001	147.4
5	9.5	0.090	47.5	0.0054	63.7	0.0002	153.7
6	10.9	0.100	45.6	0.0067	62.2	0.0001	152.2
7	12.3	0.106	44.8	0.0075	58.7	0.0001	148.7
8	13.7	0.108	44.2	0.0078	56.7	0.0001	146.7
9	15.1	0.089	49.7	0.0057	62.0	0.0001	152.0
10	16.5	0.094	48.2	0.0059	58.7	0.0000	148.7
11	17.9	0.094	46.1	0.0058	56.1	0.0001	146.1
12	19.3	0.088	45.1	0.0056	56.5	0.0001	146.5
13	20.7	0.061	50.9	0.0023	63.1	0.0000	153.1
14	22.1	0.056	48.7	0.0024	59.9	0.0000	149.9
15	23.5	0.049	46.7	0.0020	57.1	0.0000	147.1
16	24.9	0.039	46.2	0.0013	54.3	0.0000	144.3
17	26.3	0.027	46.1	0.0007	54.8	0.0000	144.8
18	27.7	0.017	41.2	0.0005	51.4	0.0000	141.4

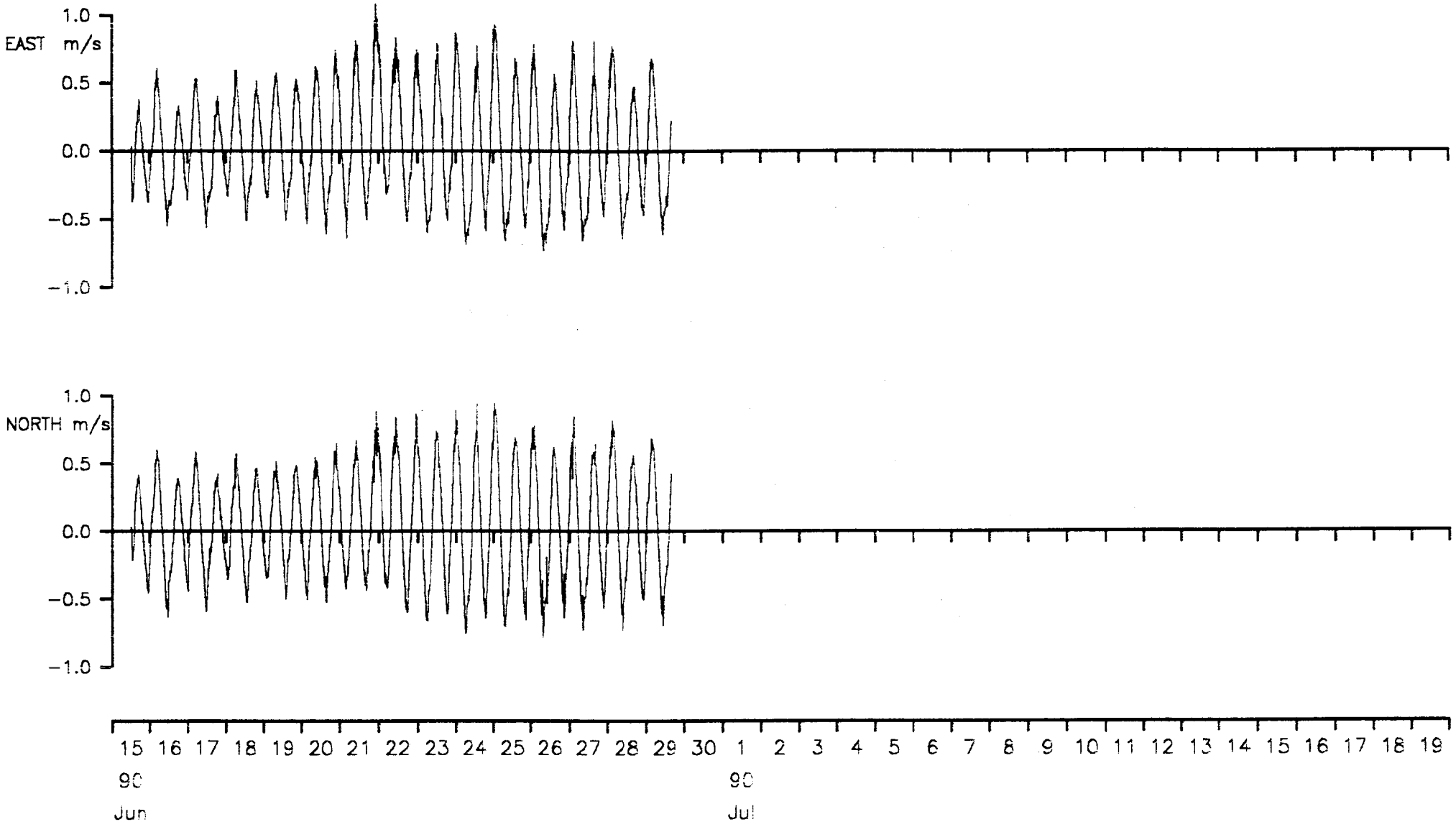
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



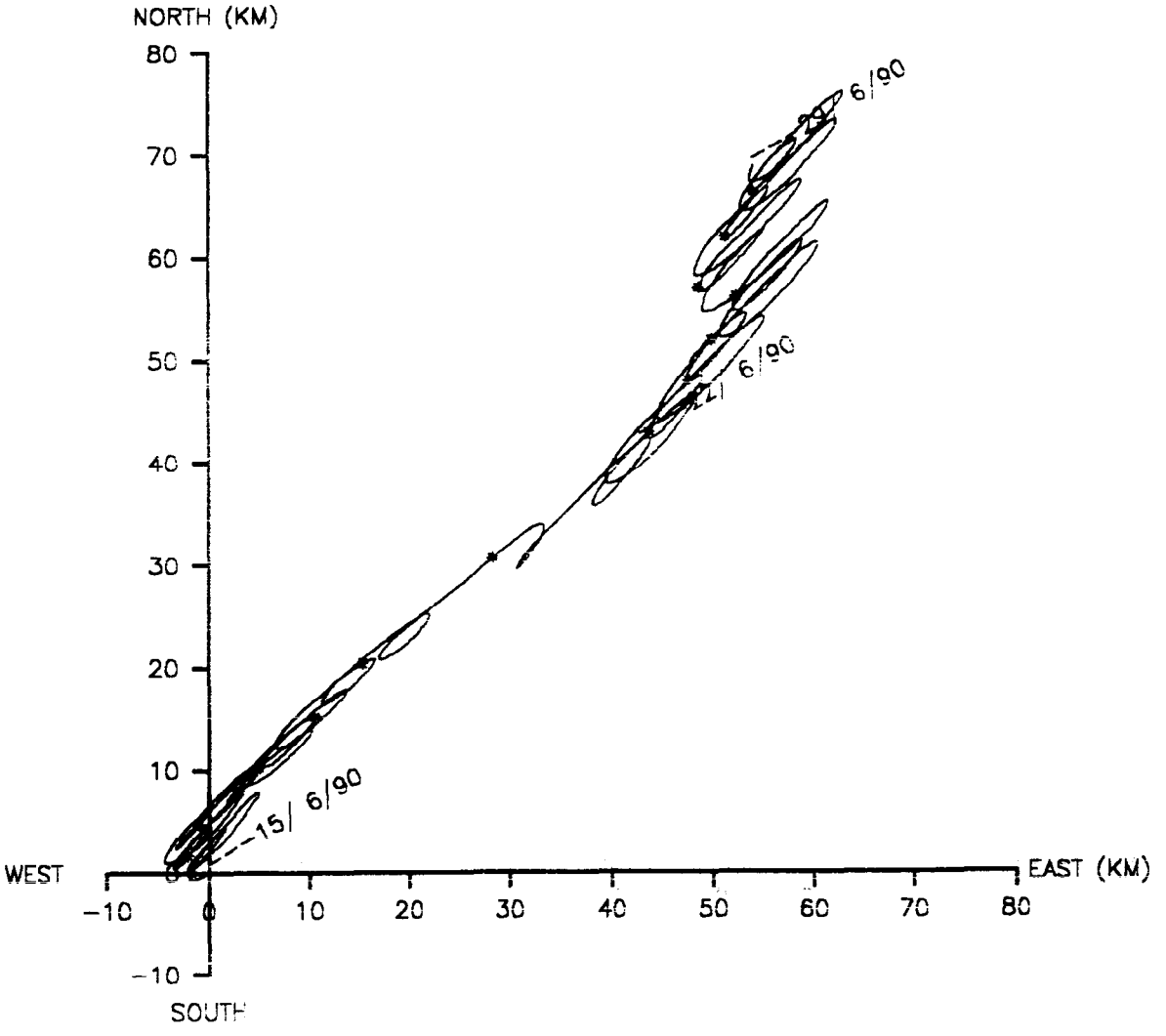
VECTOR PLOT

Meter no. 0010 Rig no. 00434 Depth of water(m) 30.0

Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004347 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0442	0.15594918E+00	0.39490402E+00
Northings	0.0563	0.15600085E+00	0.39496946E+00
Speed	0.4945	0.72492421E-01	0.26924419E+00

Vector mean speed 0.0716
Vector Mean Direction 38.1

Maximum ten values

Eastings					Northings				
1.078	0.983	0.968	0.950	0.926	0.943	0.938	0.898	0.892	0.892
0.914	0.912	0.898	0.896	0.880	0.885	0.885	0.880	0.873	0.872

Minimum ten values

Eastings					Northings				
-0.652	-0.657	-0.662	-0.664	-0.680	-0.713	-0.725	-0.725	-0.727	-0.729
-0.681	-0.681	-0.689	-0.693	-0.731	-0.737	-0.746	-0.748	-0.757	-0.781

Maximum speeds

1.395	1.272	1.244	1.235	1.235	1.233	1.231	1.222	1.221	1.206
1.203	1.202	1.200	1.195	1.195	1.195	1.167	1.161	1.156	1.149
1.145	1.142	1.138	1.132	1.130	1.126	1.122	1.120	1.119	1.118
1.114	1.111	1.110	1.102	1.100	1.092	1.087	1.086	1.086	1.083
1.081	1.080	1.079	1.073	1.070	1.062	1.061	1.059	1.054	1.053
1.052	1.051	1.050	1.048	1.047	1.046	1.044	1.043	1.040	1.036
1.036	1.032	1.032	1.032	1.031	1.025	1.023	1.021	1.018	1.011
1.010	1.008	1.007	1.007	1.004	1.004	1.002	1.001	1.000	0.999
0.998	0.988	0.985	0.985	0.984	0.984	0.983	0.983	0.981	0.981
0.980	0.980	0.977	0.976	0.976	0.975	0.974	0.969	0.969	0.968

Variance ellipse statistics

Maximum variance 0.3037E+00 Direction 45.0

Minimum variance 0.8247E-02 Direction 135.0

Total variance 0.3119E+00 Ratio of variances 0.2715E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -1.7

Average direction. maxdir +PI/2 to maxdir -PI/2 181.8

Statistics for DP0010 004347F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0746	0.55338666E-02	0.74389935E-01
Northings	0.0752	0.20902357E-02	0.45719098E-01
Speed	0.1129	0.60386956E-02	0.77709019E-01

Vector mean speed 0.1059
Vector Mean Direction 44.8

Maximum ten values

Eastings					Northings				
0.262	0.251	0.230	0.198	0.173	0.190	0.184	0.169	0.152	0.133
0.130	0.117	0.078	0.075	0.074	0.111	0.099	0.090	0.086	0.083

Minimum ten values

Eastings					Northings				
0.046	0.045	0.042	0.040	0.036	0.048	0.046	0.043	0.042	0.042
0.035	0.009	-0.027	-0.048	-0.052	0.040	0.040	0.020	0.010	0.009

Maximum speeds

0.324	0.311	0.285	0.250	0.218	0.171	0.154	0.117	0.111	0.109
0.107	0.106	0.094	0.090	0.089	0.085	0.083	0.083	0.082	0.080
0.080	0.078	0.074	0.074	0.064	0.064	0.056	0.056	0.053	0.053
0.049	0.043	0.033							

Variance ellipse statistics

Maximum variance 0.7545E-02 Direction 58.7

Minimum variance 0.7889E-04 Direction 148.7

Total variance 0.7624E-02 Ratio of variances 0.1046E-01

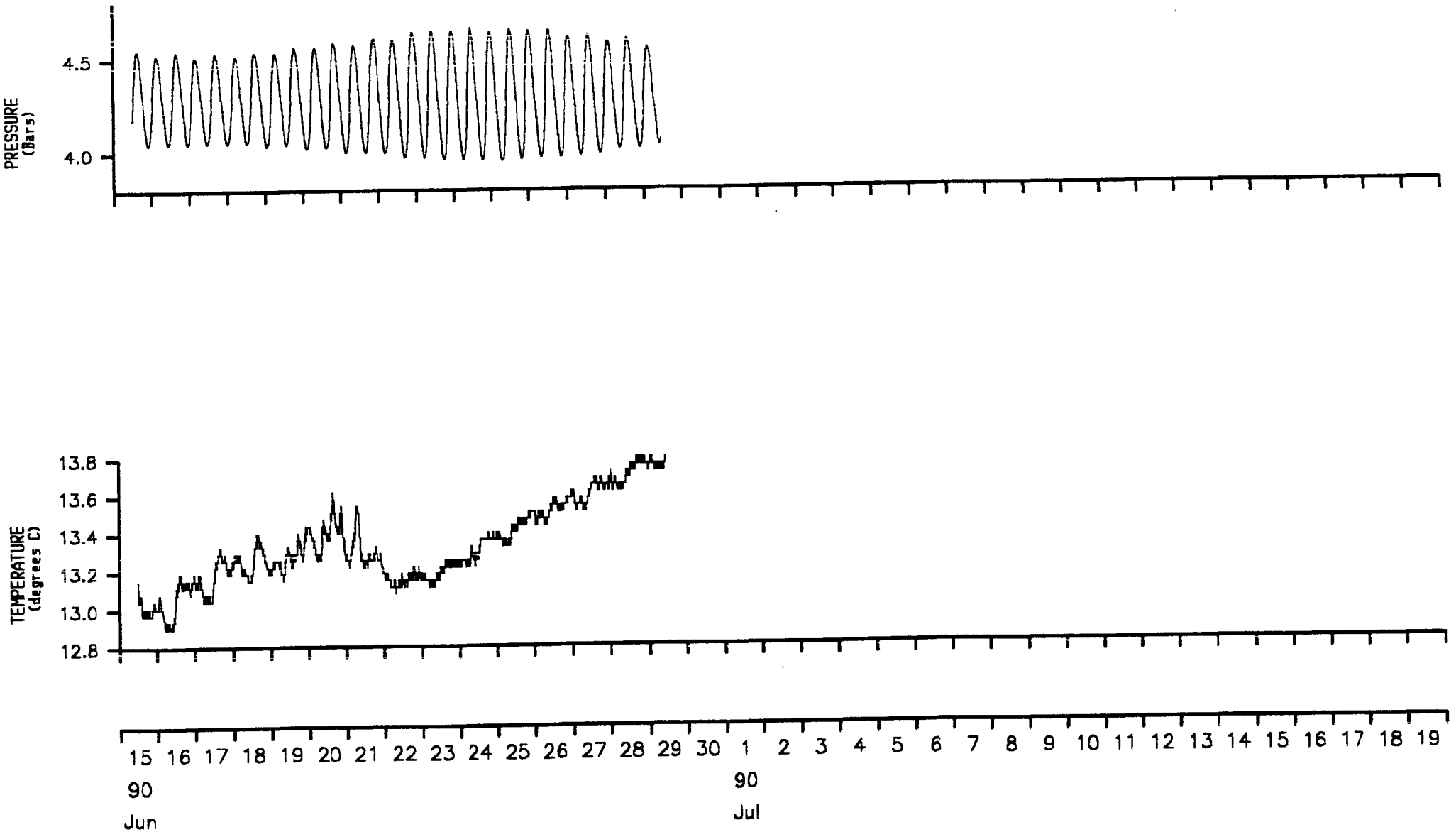
Average direction. maxdir -PI/2 to maxdir +PI/2 -15.3

Average direction. maxdir +PI/2 to maxdir -PI/2 230.9

Meter information details for 1042

Rig No	:	00434
Meter No	:	1042
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	14-JUNE-90 10:10:40
Time of last valid scan	:	29-JUNE-90 11:30:40
Period of good data	:	14.0 days short record
Total number of scans	:	2012
Timing error	:	None
Comments	:	Meter stopped recording

Meter no. 1042 Rig no. 00434 Depth of water(m) 30.0
Start/End 1990/06/15 AT 12:18:00 1990/07/18 AT 12:00:00
Position 50 55.87N 01 16.47E Meter Height(m) 0.5



Rig information details for 00436

Position Latitude	:	50 55.87N
Position Longitude	:	01 16.47E
Water depth	:	30.0 m
Deployed on cruise	:	ZIERIKE
Recovered on cruise	:	ALKMAAR
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	18-JULY-90 10:00:00
Rig recovered on	:	21-AUG-90 14:50:00
Period of deployment	:	34.2 days
Comments	:	Launch and recovery successful

Meter information details for 0004

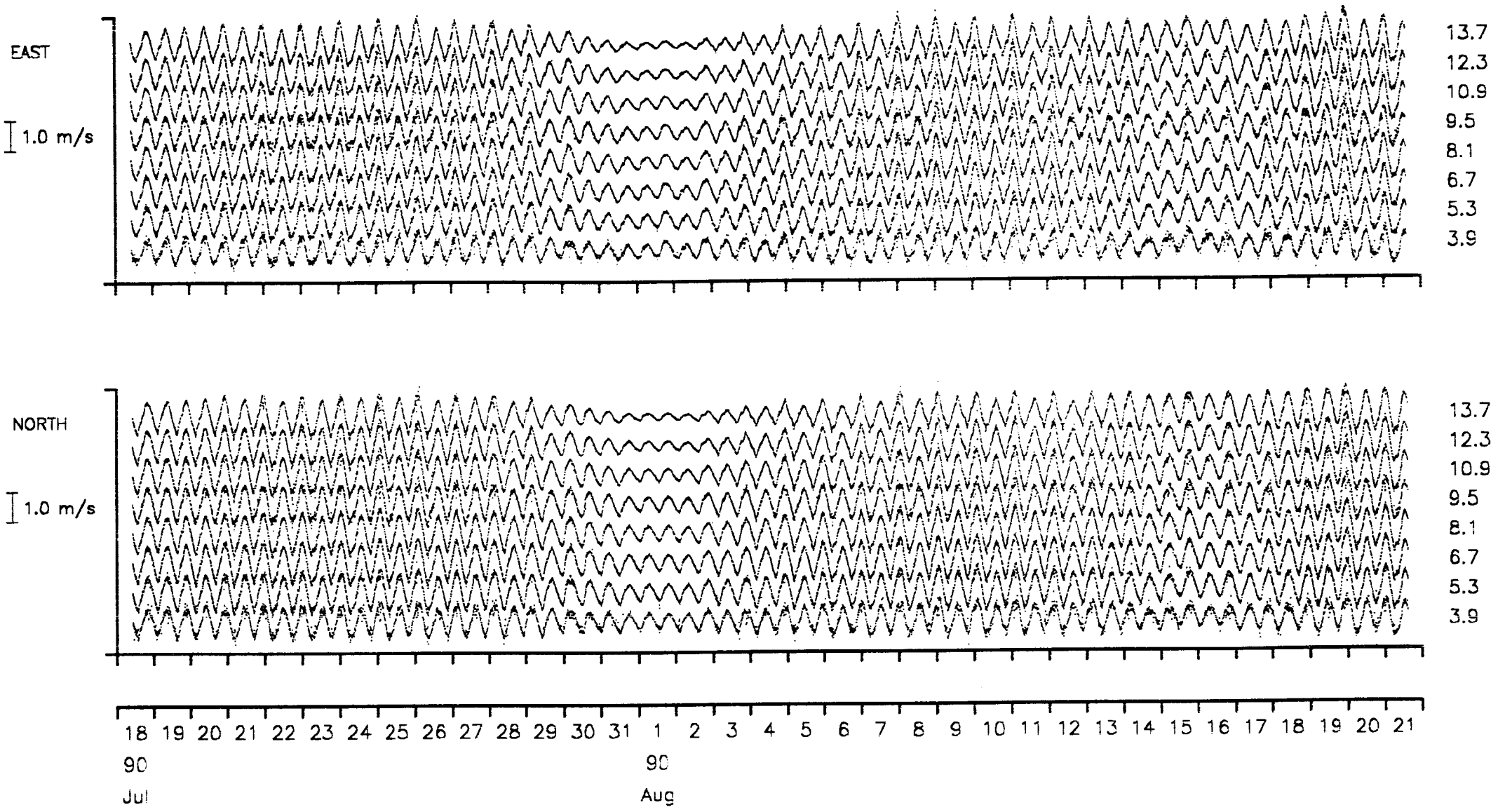
Rig No	:	00436
Meter No	:	0004
Frame angle correction	:	87.0 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	17-JULY-90 06:39:02
Time of last valid scan	:	21-AUG-90 14:49:08
Period of good data	:	34.1 days short record
Total number of scans	:	4916
Timing error	:	6 seconds slow
Comments	:	Timing channel malfunction which has been altered manually Corrupted hexaDECimal present in raw data e.g F7's instead of FF's Three increments of 40 minutes instead of 10 minutes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

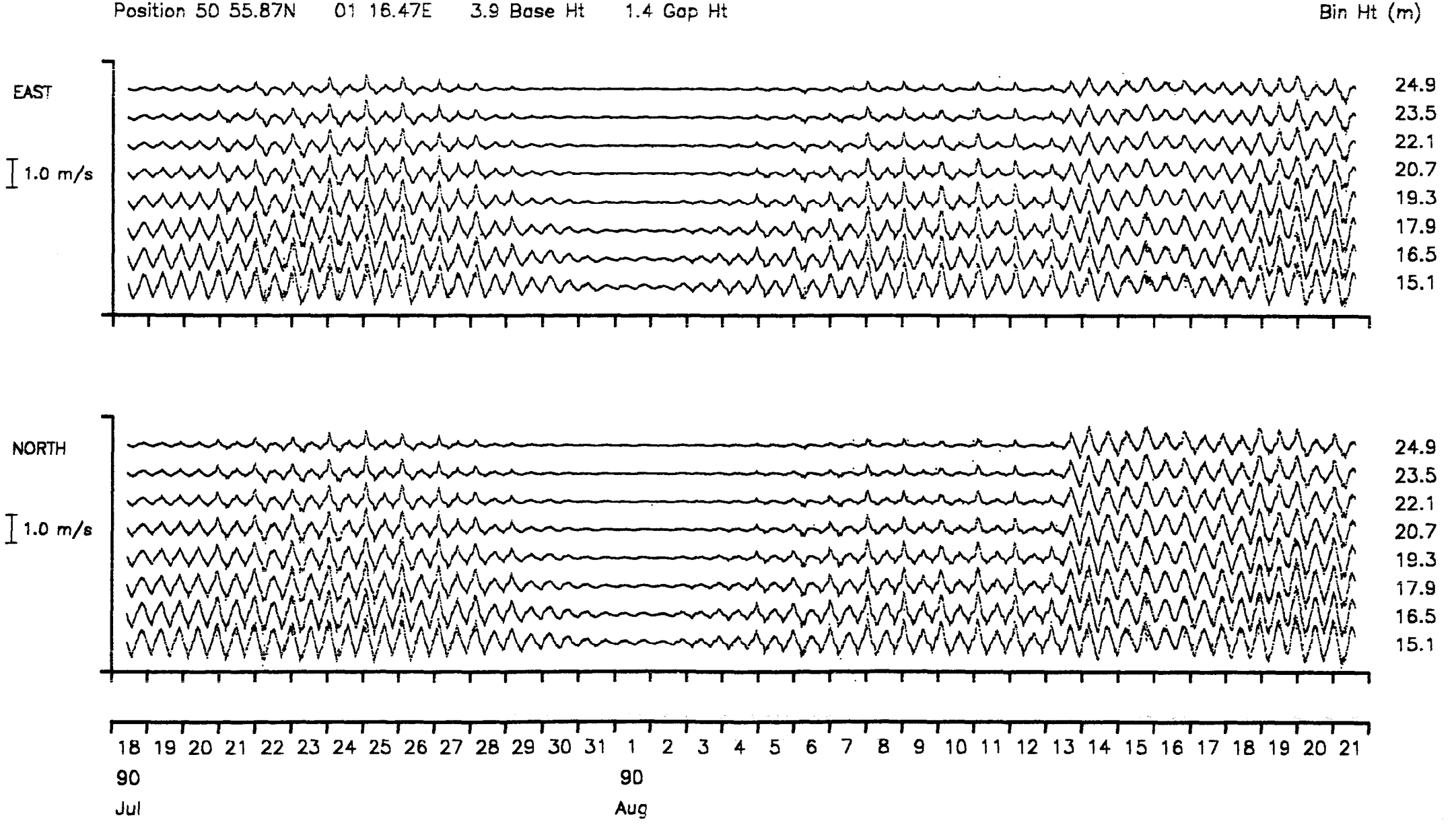


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

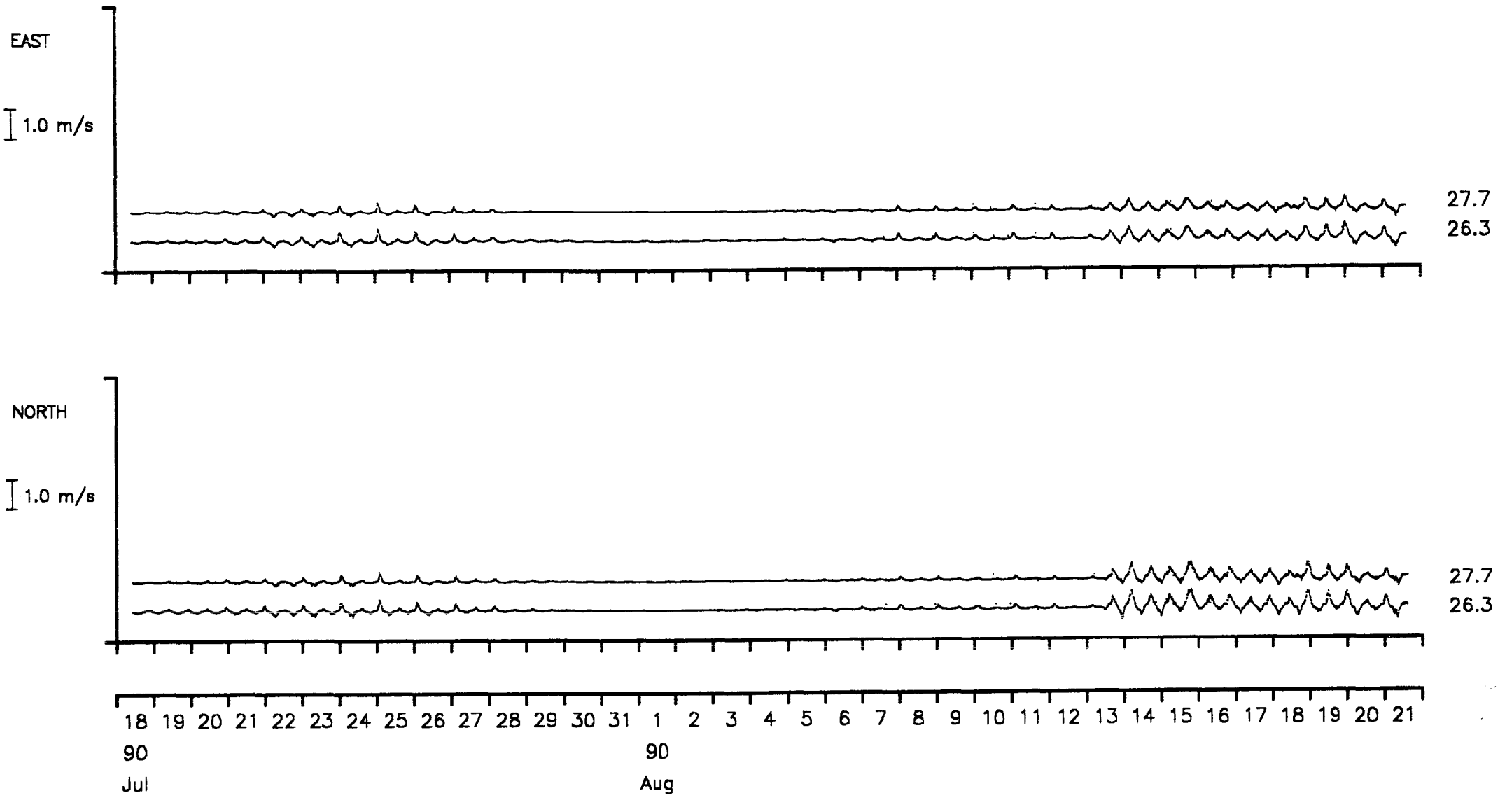


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

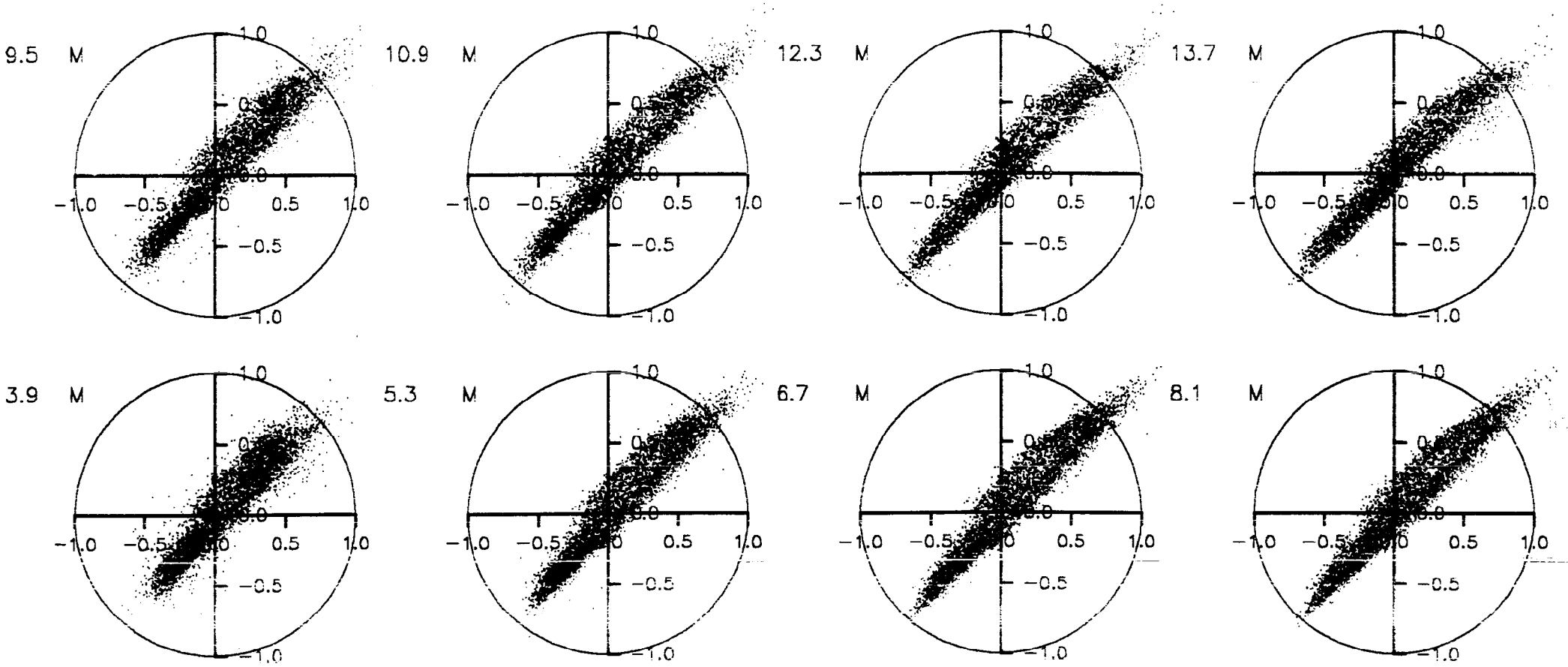


SCATTER PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

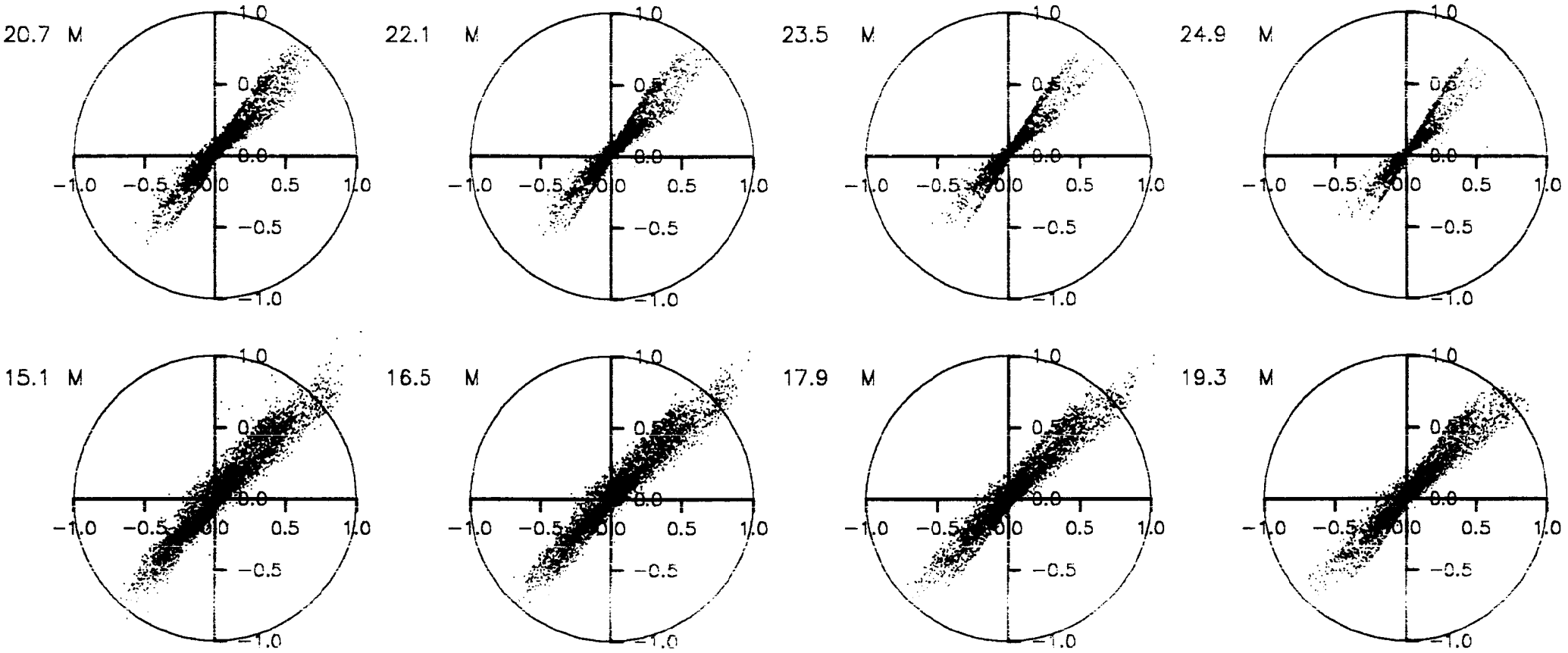


SCATTER PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

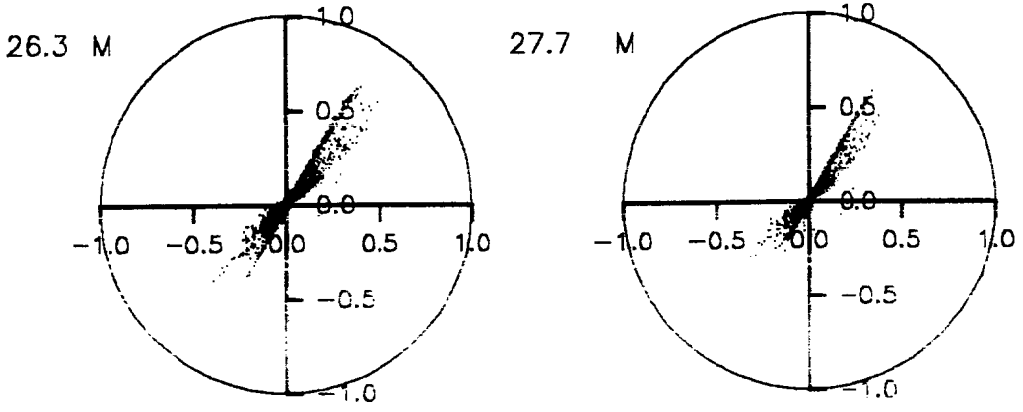


SCATTER PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

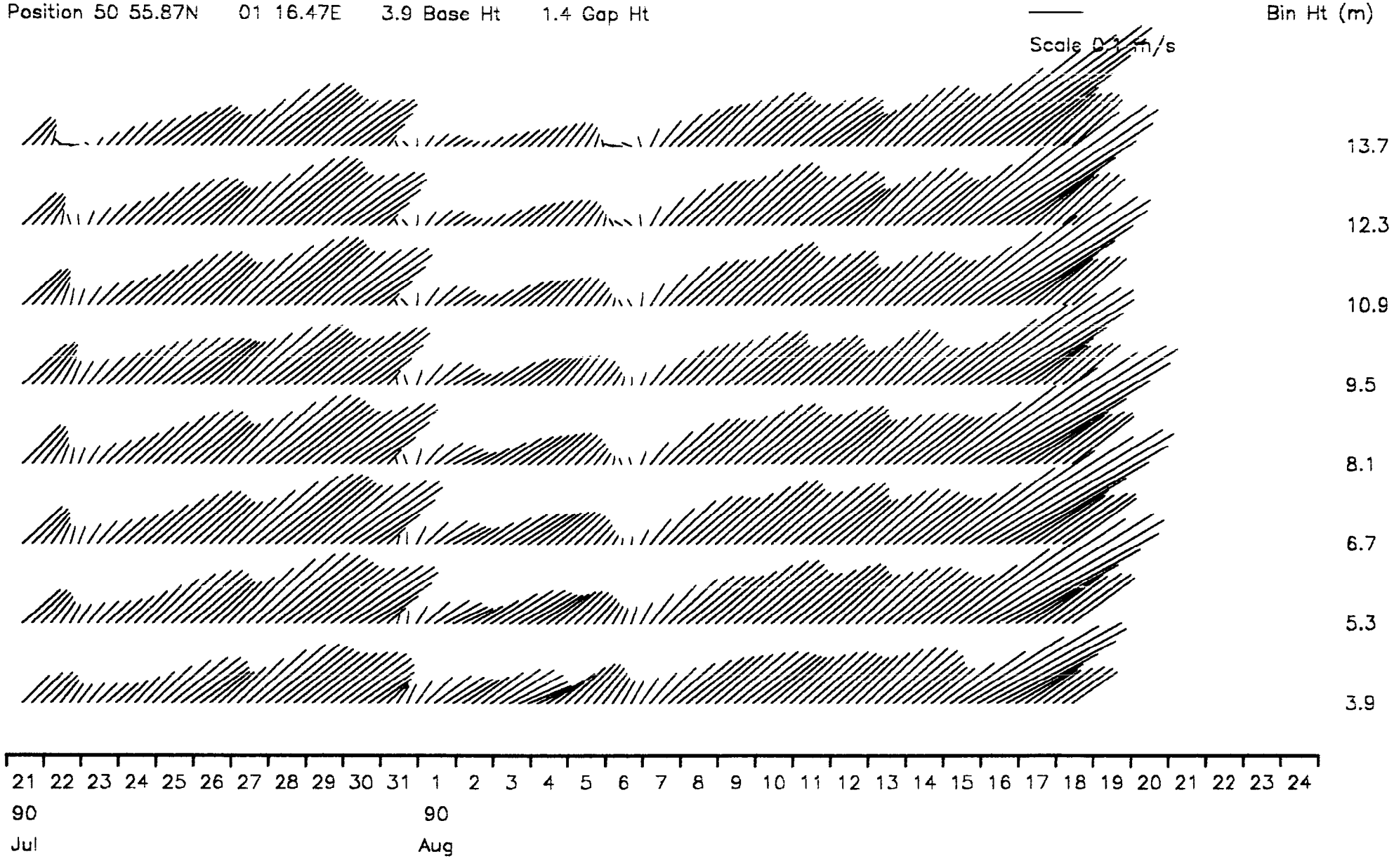


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

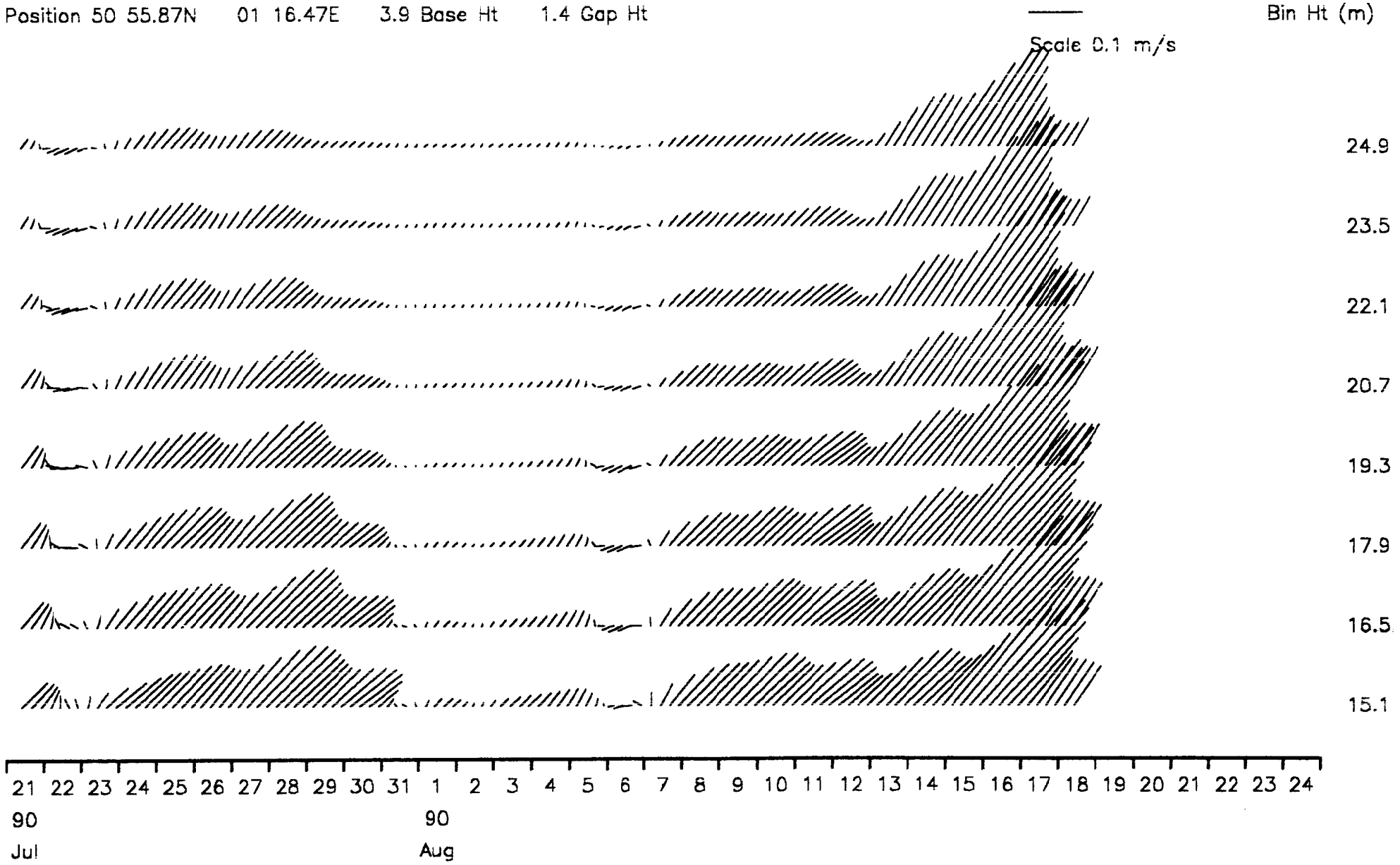


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

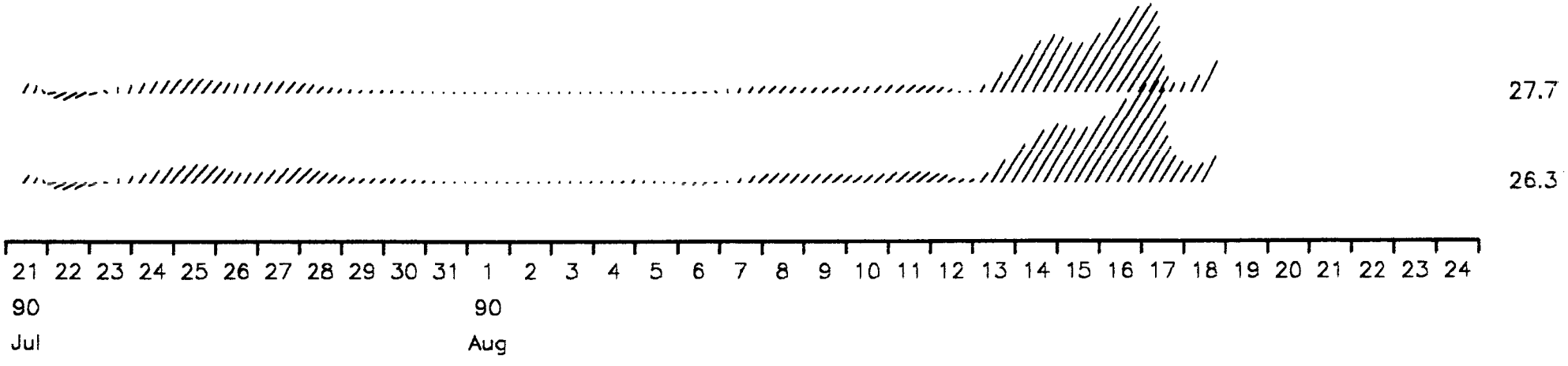
Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0004 00436

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.115	51.8	0.1843	42.3	0.0071	132.3
2	5.3	0.132	51.5	0.2700	43.2	0.0057	133.2
3	6.7	0.133	51.4	0.3014	43.7	0.0056	133.7
4	8.1	0.130	50.7	0.2995	44.2	0.0054	134.2
5	9.5	0.115	49.8	0.2496	42.9	0.0063	132.9
6	10.9	0.119	49.2	0.2832	44.0	0.0054	134.0
7	12.3	0.115	48.9	0.2784	45.0	0.0049	135.0
8	13.7	0.104	49.0	0.2427	45.7	0.0046	135.7
9	15.1	0.088	42.8	0.1709	43.0	0.0035	133.0
10	16.5	0.083	42.0	0.1586	43.9	0.0029	133.9
11	17.9	0.076	41.4	0.1327	44.3	0.0024	134.3
12	19.3	0.066	39.8	0.1029	44.1	0.0021	134.1
13	20.7	0.056	37.8	0.0689	41.4	0.0013	131.4
14	22.1	0.048	36.3	0.0521	40.7	0.0011	130.7
15	23.5	0.041	34.7	0.0371	39.5	0.0008	129.5
16	24.9	0.037	35.2	0.0256	38.0	0.0007	128.0
17	26.3	0.028	35.3	0.0170	36.4	0.0004	126.4
18	27.7	0.024	30.7	0.0107	34.8	0.0002	124.8

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.118	52.2	0.0026	62.1	0.0001	152.1
2	5.3	0.134	52.1	0.0052	59.5	0.0001	149.5
3	6.7	0.134	51.9	0.0061	59.3	0.0001	149.3
4	8.1	0.130	51.3	0.0066	59.1	0.0001	149.1
5	9.5	0.116	50.1	0.0038	58.4	0.0001	148.4
6	10.9	0.120	49.7	0.0054	56.9	0.0001	146.9
7	12.3	0.116	49.4	0.0064	56.0	0.0001	146.0
8	13.7	0.105	49.5	0.0067	54.8	0.0000	144.8
9	15.1	0.088	43.2	0.0038	45.5	0.0001	135.5
10	16.5	0.083	42.3	0.0044	45.3	0.0001	135.3
11	17.9	0.075	41.9	0.0045	44.5	0.0001	134.5
12	19.3	0.066	40.4	0.0044	42.3	0.0001	132.3
13	20.7	0.056	38.7	0.0037	39.1	0.0001	129.1
14	22.1	0.047	37.3	0.0033	37.2	0.0001	127.2
15	23.5	0.041	35.6	0.0027	35.1	0.0000	125.1
16	24.9	0.036	36.2	0.0023	33.9	0.0000	123.9
17	26.3	0.028	35.8	0.0019	32.4	0.0000	122.4
18	27.7	0.022	31.7	0.0015	32.0	0.0000	122.0

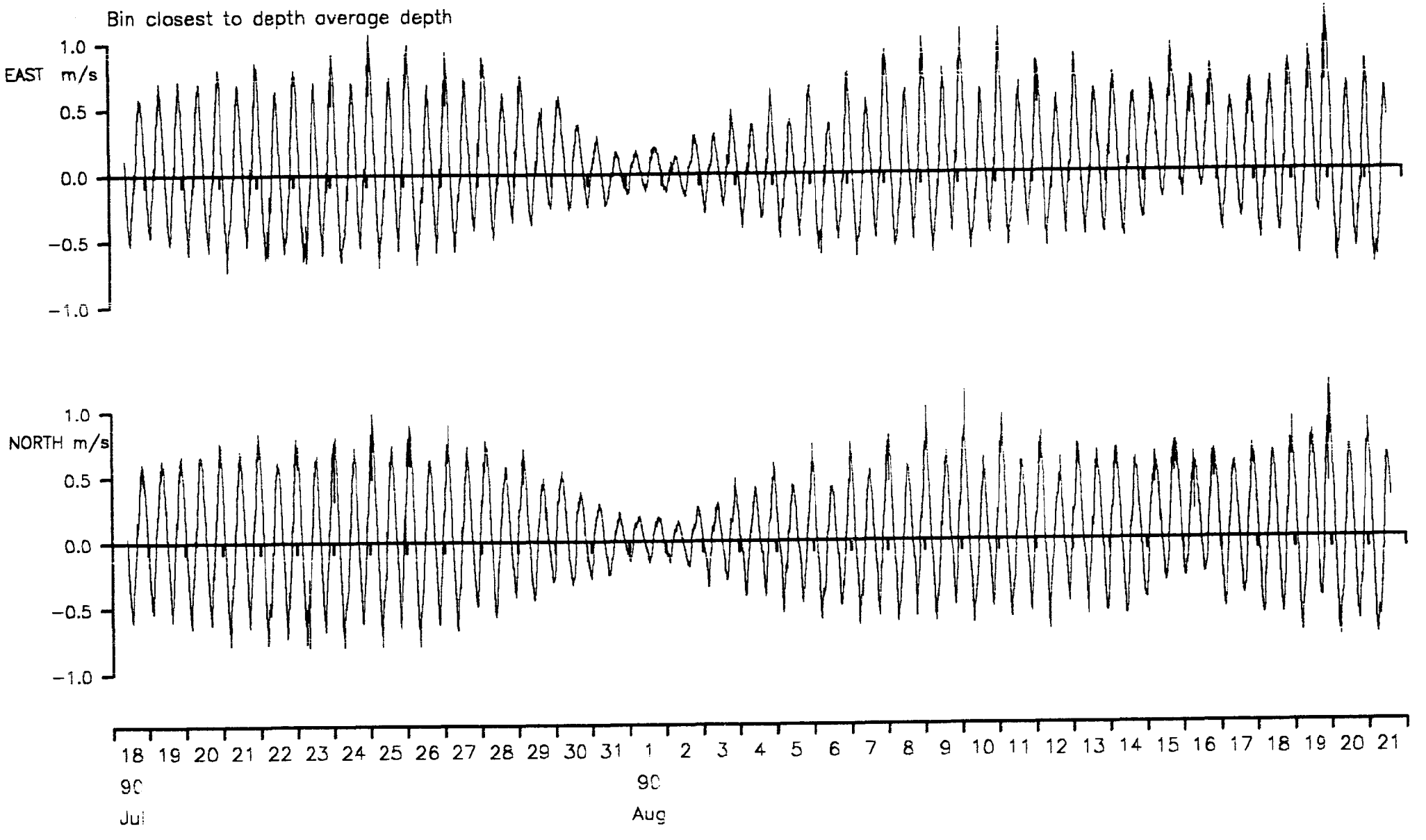
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



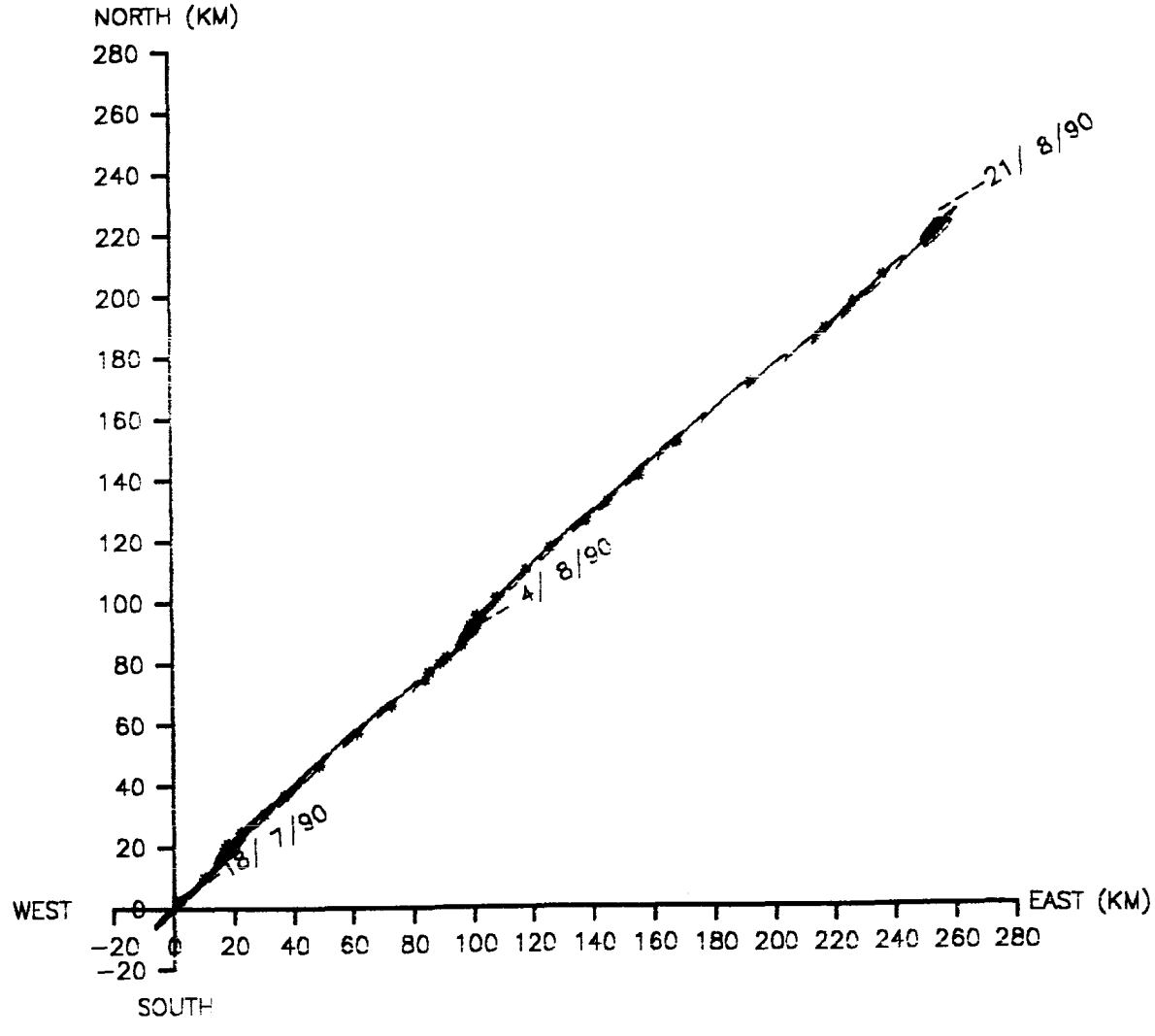
VECTOR PLOT

Meter no. 0004 Rig no. 00436 Depth of water(m) 30.0

Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00

Position 50 55.87N 01 16.47E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 004367 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0868	0.14148265E+00	0.37614179E+00
Northings	0.0758	0.14177936E+00	0.37653589E+00
Speed	0.4549	0.89594781E-01	0.29932386E+00

Vector mean speed 0.1152
Vector Mean Direction 48.9

Maximum ten values

Eastings					Northings				
1.229	1.149	1.140	1.129	1.111	1.187	1.139	1.133	1.125	1.015
1.091	1.087	1.067	1.057	1.035	0.986	0.977	0.967	0.950	0.949

Minimum ten values

Eastings					Northings				
-0.665	-0.674	-0.678	-0.680	-0.692	-0.748	-0.753	-0.767	-0.774	-0.777
-0.699	-0.706	-0.706	-0.721	-0.732	-0.782	-0.789	-0.792	-0.793	-0.796

Maximum speeds

1.675	1.652	1.602	1.570	1.487	1.485	1.446	1.443	1.423	1.410
1.396	1.384	1.383	1.352	1.346	1.340	1.325	1.317	1.315	1.295
1.289	1.288	1.283	1.277	1.275	1.274	1.273	1.273	1.271	1.264
1.263	1.259	1.259	1.248	1.242	1.237	1.237	1.235	1.235	1.228
1.227	1.227	1.227	1.226	1.224	1.219	1.218	1.217	1.215	1.212
1.212	1.199	1.198	1.194	1.191	1.190	1.187	1.180	1.173	1.171
1.169	1.168	1.167	1.164	1.164	1.159	1.158	1.158	1.157	1.155
1.154	1.149	1.147	1.145	1.142	1.139	1.135	1.132	1.132	1.131
1.130	1.128	1.126	1.126	1.123	1.122	1.121	1.118	1.117	1.116
1.115	1.114	1.114	1.108	1.108	1.107	1.105	1.104	1.103	1.100

Variance ellipse statistics

Maximum variance 0.2784E+00 Direction 45.0

Minimum variance 0.4894E-02 Direction 135.0

Total variance 0.2833E+00 Ratio of variances 0.1758E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -1.5

Average direction. maxdir +PI/2 to maxdir -PI/2 177.4

Statistics for DP0004 004367F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0881	0.44304729E-02	0.66561818E-01
Northings	0.0754	0.20452819E-02	0.45224790E-01
Speed	0.1173	0.61495826E-02	0.78419268E-01

Vector mean speed 0.1159
Vector Mean Direction 49.4

Maximum ten values

Eastings					Northings				
0.323	0.320	0.295	0.285	0.246	0.225	0.217	0.213	0.192	0.183
0.232	0.189	0.177	0.158	0.156	0.159	0.146	0.128	0.127	0.125

Minimum ten values

Eastings					Northings				
0.004	0.003	-0.002	-0.003	-0.005	0.018	0.017	0.015	0.015	0.013
-0.005	-0.008	-0.009	-0.014	-0.015	0.012	0.011	0.010	0.009	0.009

Maximum speeds

0.391	0.389	0.356	0.352	0.295	0.292	0.229	0.227	0.203	0.200
0.192	0.189	0.176	0.175	0.174	0.172	0.171	0.170	0.169	0.168
0.167	0.165	0.163	0.161	0.160	0.159	0.157	0.157	0.153	0.153
0.151	0.151	0.150	0.148	0.148	0.146	0.145	0.145	0.145	0.145
0.143	0.141	0.138	0.138	0.137	0.137	0.137	0.136	0.133	0.132
0.131	0.130	0.129	0.127	0.125	0.124	0.124	0.117	0.116	0.116
0.113	0.113	0.112	0.111	0.105	0.102	0.101	0.100	0.096	0.087
0.085	0.080	0.074	0.070	0.069	0.067	0.067	0.067	0.067	0.066
0.066	0.064	0.062	0.060	0.059	0.052	0.050	0.049	0.047	0.045
0.043	0.040	0.039	0.038	0.036	0.034	0.031	0.028	0.027	0.027

Variance ellipse statistics

Maximum variance 0.6425E-02 Direction 56.0

Minimum variance 0.5033E-04 Direction 146.0

Total variance 0.6476E-02 Ratio of variances 0.7834E-02

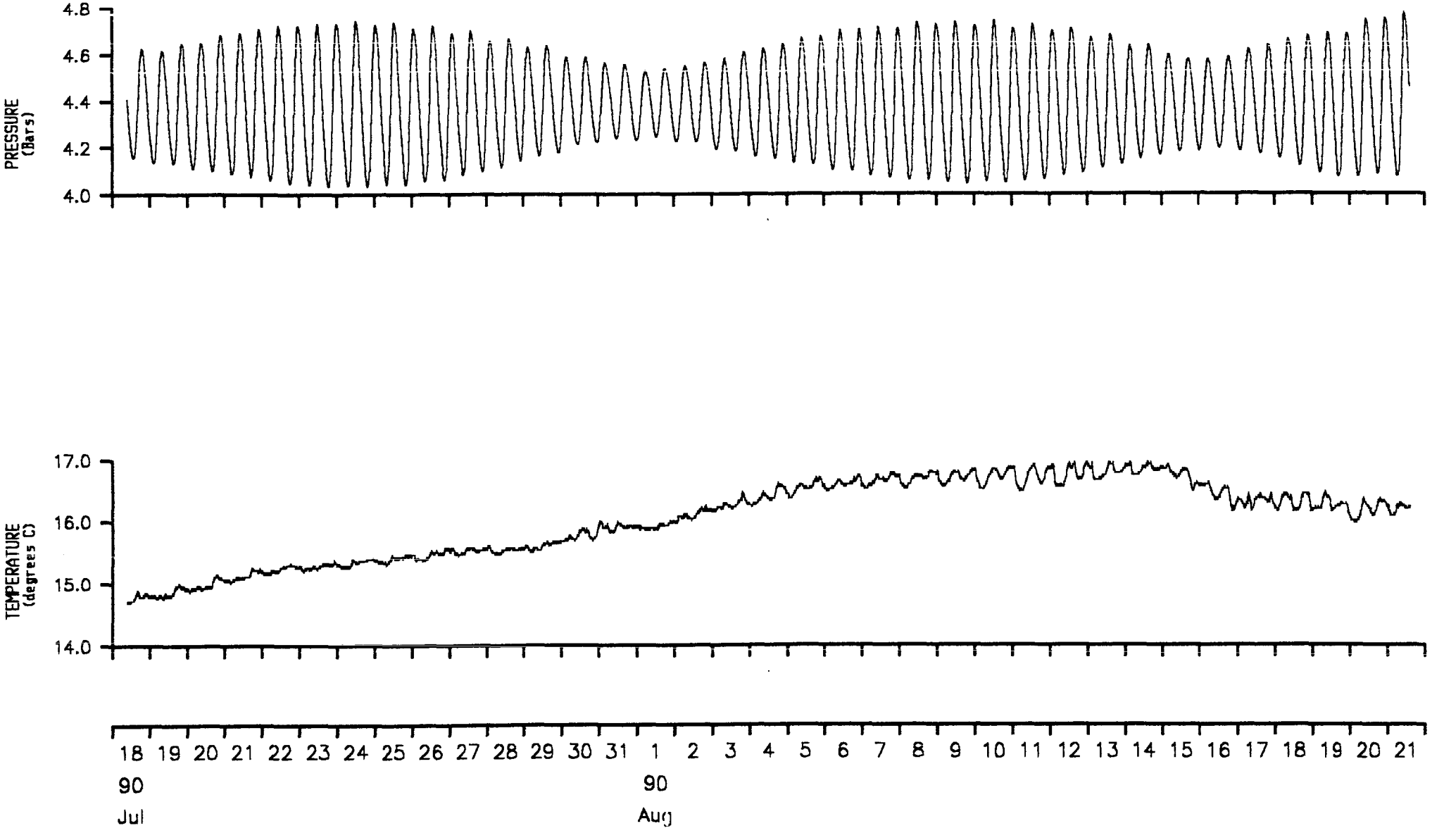
Average direction. maxdir -PI/2 to maxdir +PI/2 -11.5

Average direction. maxdir +PI/2 to maxdir -PI/2 252.9

Meter information details for 1038

Rig No	:	00436
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	16-JULY-90 12:30:40
Meter stopped	:	21-AUG-90 15:20:38
Period switched on	:	36.1 days
Period of good data	:	34.2 days
Total number of scans	:	4925
Timing error	:	2 seconds fast
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00436 Depth of water(m) 30.0
Start/End 1990/07/18 AT 10:00:00 1990/08/21 AT 14:50:00
Position 50 55.87N 01 16.47E Meter Height(m) 0.5



Rig information details for 00438

Position Latitude	:	50 56.60N
Position Longitude	:	01 15.60E
Water depth	:	30.0 m
Deployed on cruise	:	ALKMAAR
Recovered on cruise	:	C72
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	04-SEPT-90 23:00:00
Rig recovered on	:	24-SEPT-90 11:25:00
Period of deployment	:	19.5 days
Comments	:	Launch and recovery successful

Meter information details for 0010

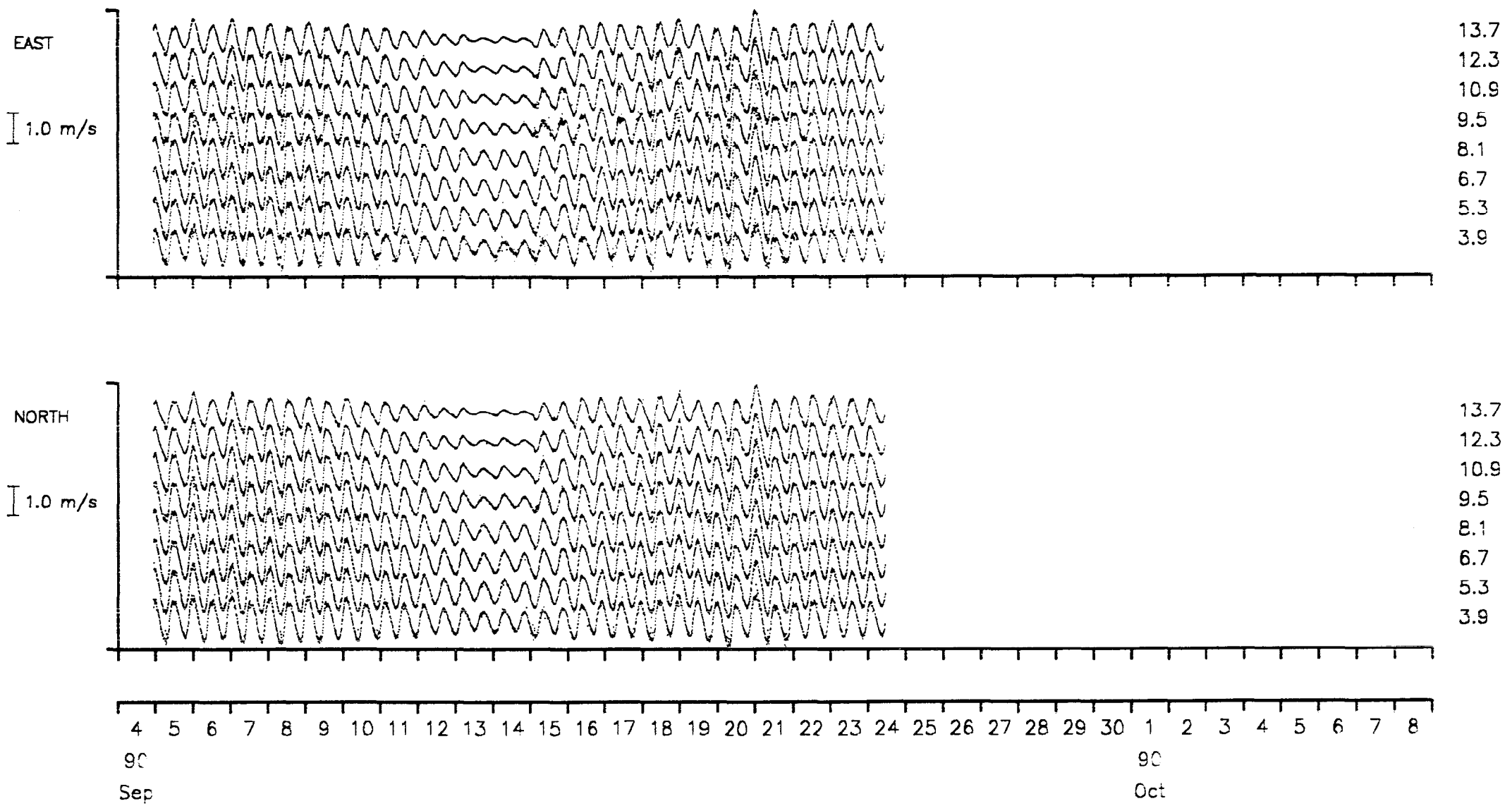
Rig No	:	00438
Meter No	:	0010
Frame angle correction	:	78.2 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	04-SEPT-90 22:18:46
Meter stopped	:	24-SEPT-90 11:18:50
Period switched on	:	19.5 days
Period of good data	:	19.5 days
Total number of scans	:	2810
Timing error	:	4 seconds slow
Comments	:	Good record obtained
		Channel 1 recording Beam 2 and vice versa

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

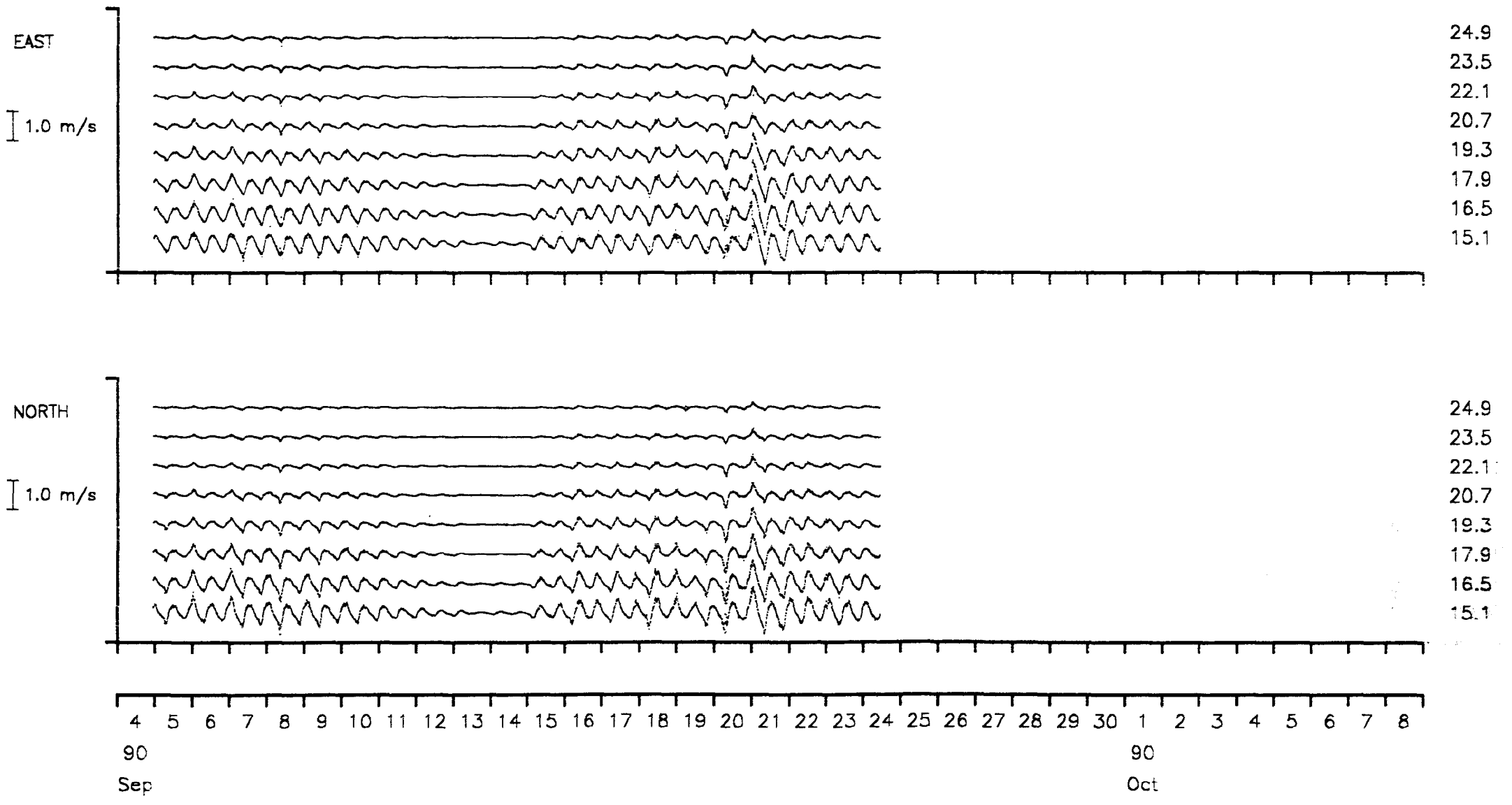


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

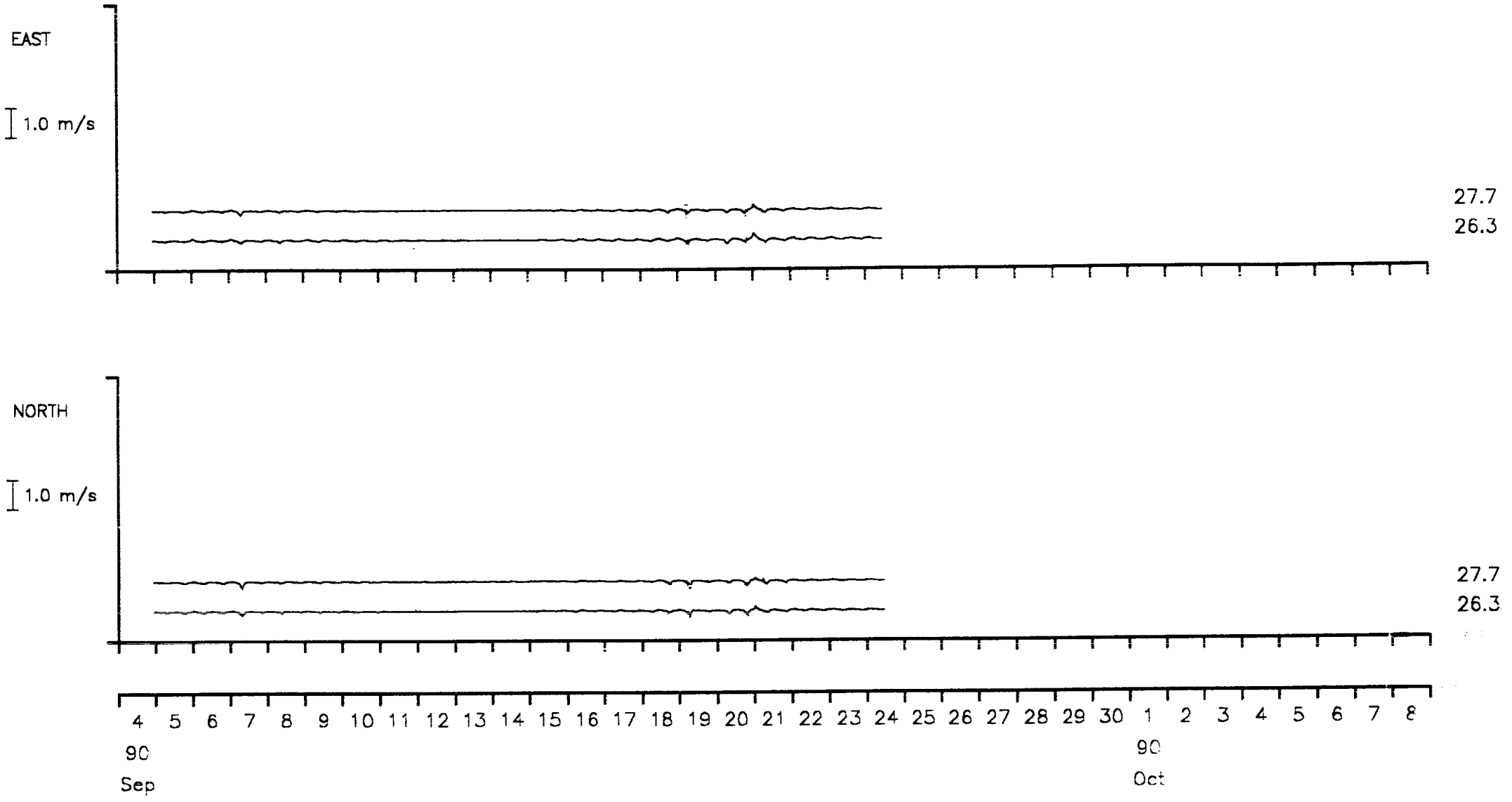


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

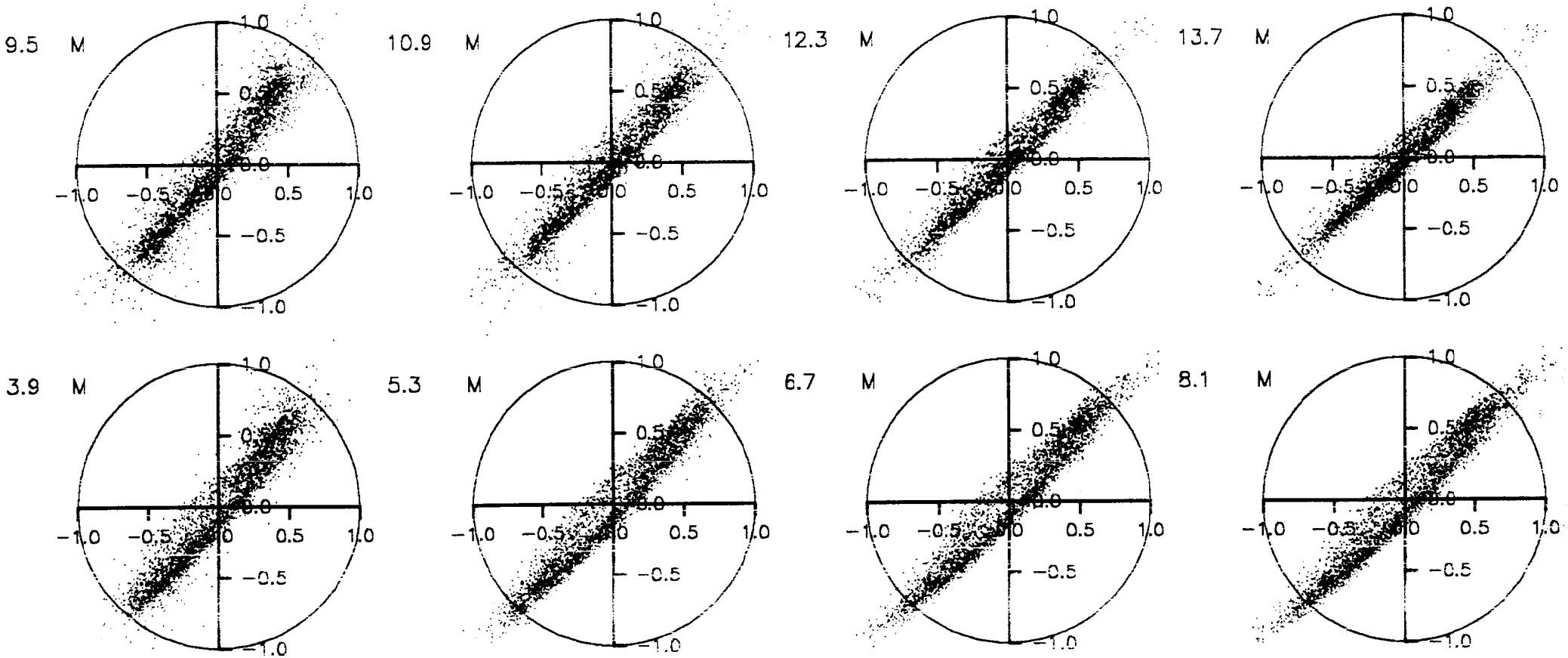


SCATTER PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

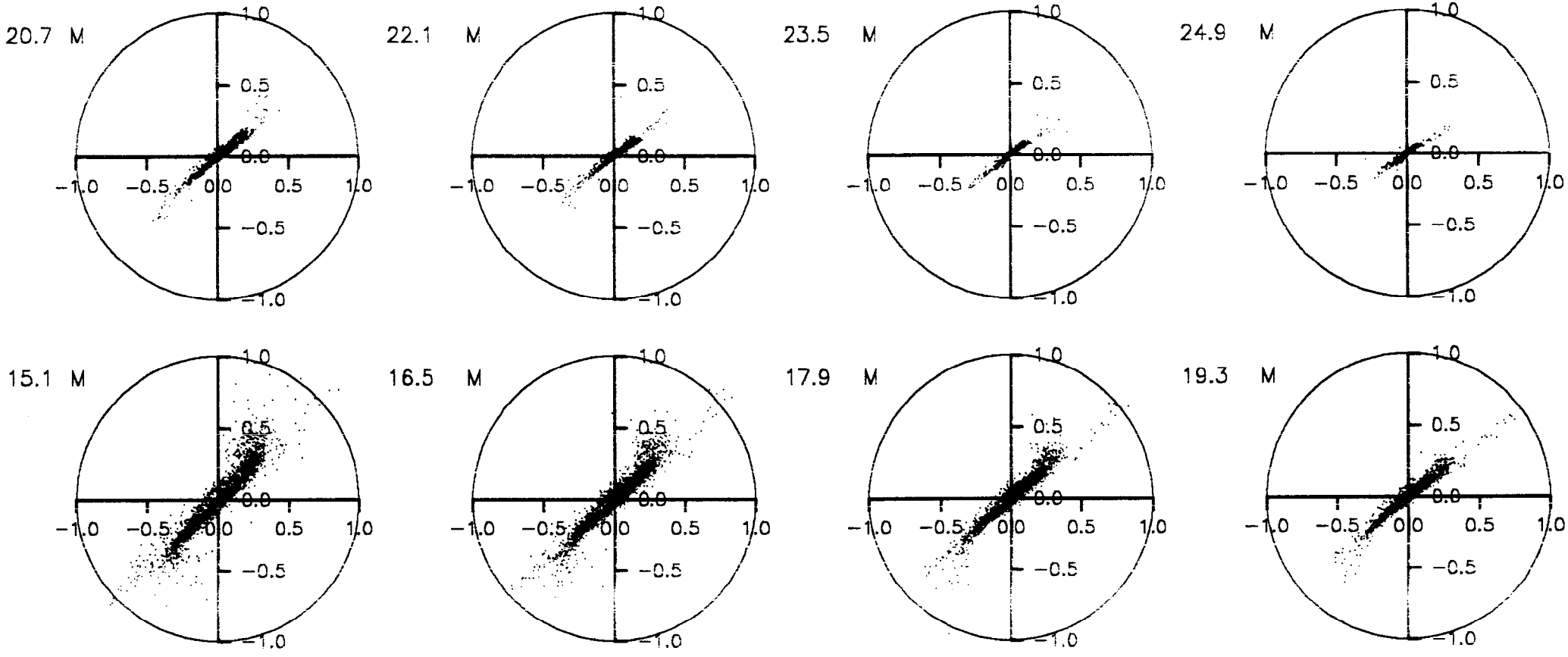


SCATTER PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

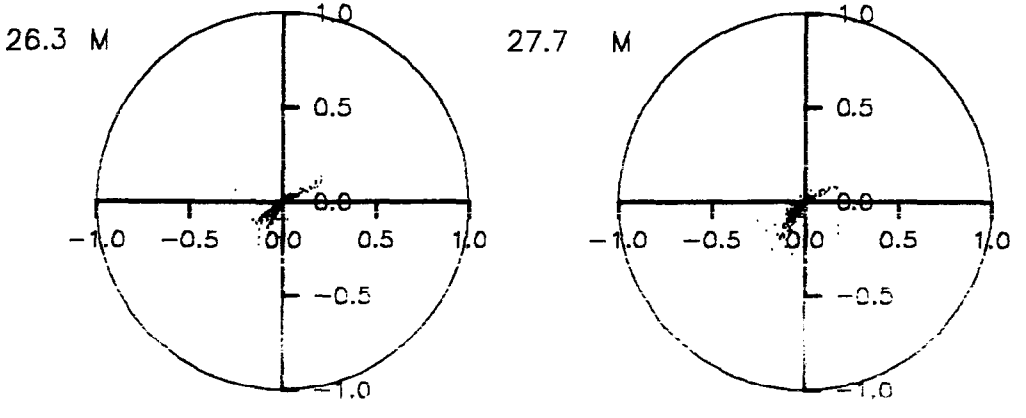


SCATTER PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

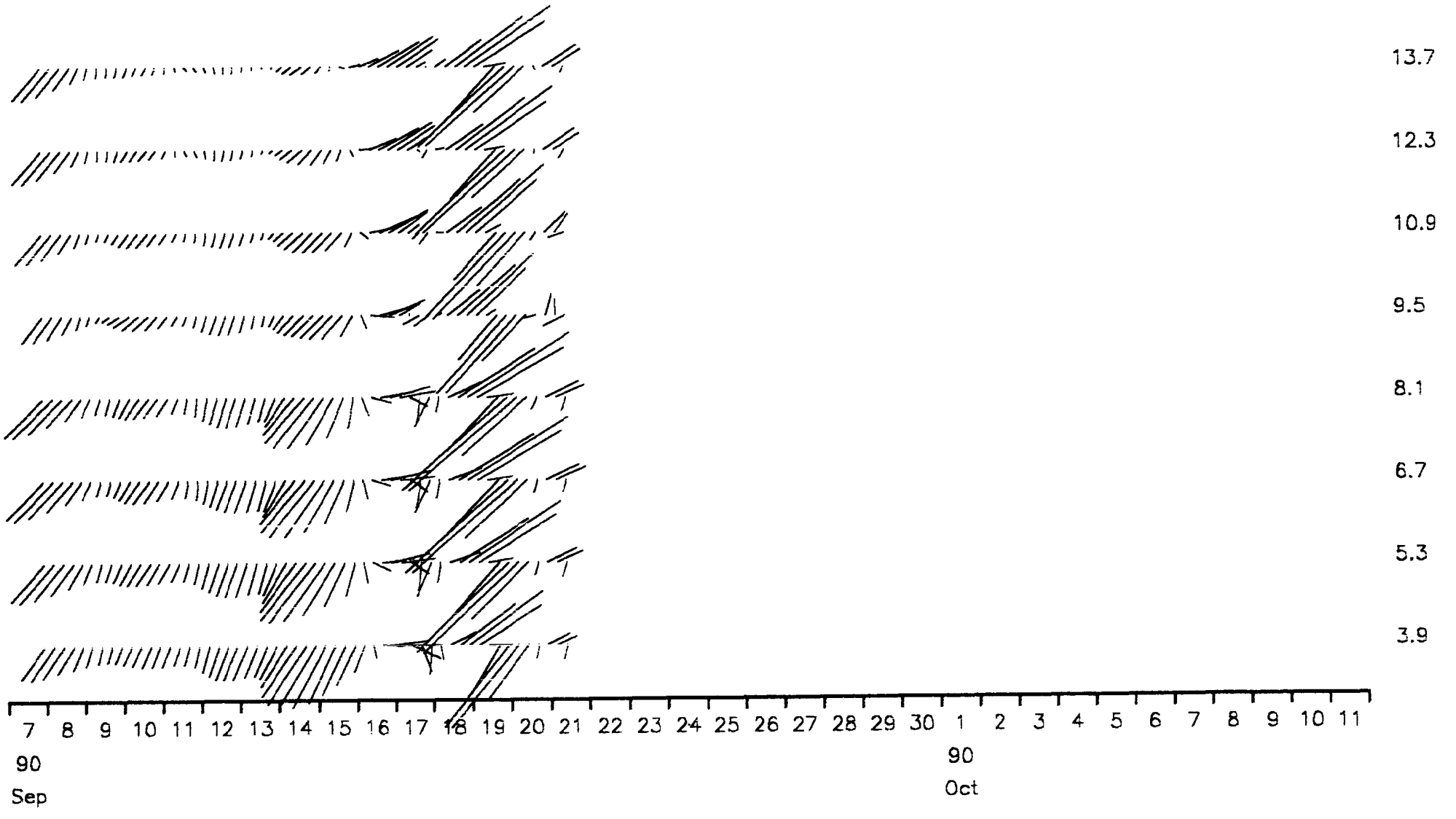


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

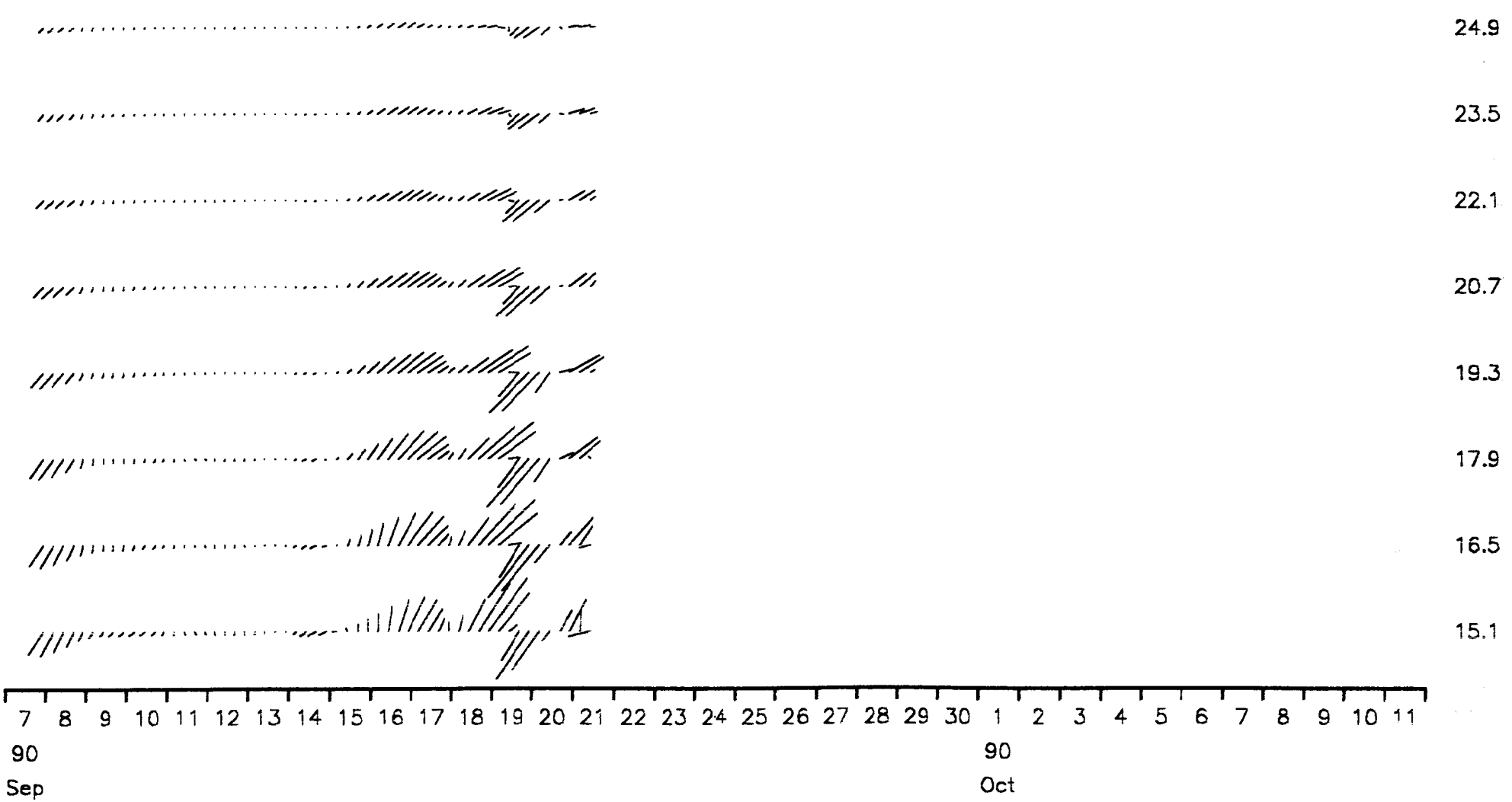


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

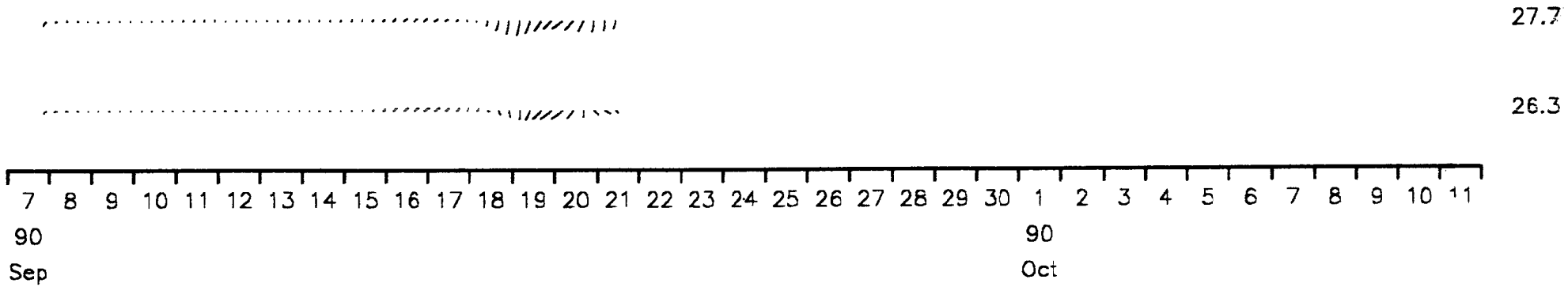
Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0010 00438

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.035	-172.0	0.3075	40.1	0.0065	130.1
2	5.3	0.033	-170.3	0.3733	43.2	0.0048	133.2
3	6.7	0.030	-170.5	0.3967	43.9	0.0048	133.9
4	8.1	0.026	-173.5	0.3996	44.1	0.0048	134.1
5	9.5	0.013	-162.9	0.2970	39.8	0.0068	129.8
6	10.9	0.009	173.9	0.2940	42.6	0.0049	132.6
7	12.3	0.010	132.6	0.2609	45.0	0.0034	135.0
8	13.7	0.012	101.1	0.2066	46.5	0.0026	136.5
9	15.1	0.007	12.3	0.0889	41.2	0.0027	131.2
10	16.5	0.009	50.4	0.0696	44.4	0.0016	134.4
11	17.9	0.010	67.2	0.0455	47.2	0.0009	137.2
12	19.3	0.009	74.8	0.0272	49.3	0.0004	139.3
13	20.7	0.007	76.8	0.0129	50.2	0.0002	140.2
14	22.1	0.005	80.8	0.0068	51.7	0.0001	141.7
15	23.5	0.003	88.4	0.0036	53.1	0.0001	143.1
16	24.9	0.002	107.7	0.0019	54.1	0.0000	144.1
17	26.3	0.002	166.0	0.0011	50.5	0.0001	140.5
18	27.7	0.004	-161.6	0.0011	41.3	0.0001	131.3

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.044	-166.3	0.0046	46.0	0.0001	136.0
2	5.3	0.044	-161.8	0.0063	50.6	0.0001	140.6
3	6.7	0.042	-160.4	0.0070	52.5	0.0001	142.5
4	8.1	0.038	-160.9	0.0071	53.2	0.0001	143.2
5	9.5	0.020	-150.6	0.0038	46.4	0.0001	136.4
6	10.9	0.015	-160.2	0.0048	47.4	0.0000	137.4
7	12.3	0.011	175.0	0.0054	51.0	0.0000	141.0
8	13.7	0.008	134.4	0.0052	51.3	0.0000	141.3
9	15.1	0.005	5.5	0.0016	32.5	0.0000	122.5
10	16.5	0.006	46.3	0.0018	38.8	0.0000	128.8
11	17.9	0.007	68.2	0.0016	44.2	0.0000	134.2
12	19.3	0.007	76.5	0.0012	49.8	0.0000	139.8
13	20.7	0.004	79.4	0.0008	51.7	0.0000	141.7
14	22.1	0.003	85.0	0.0004	54.3	0.0000	144.3
15	23.5	0.002	98.8	0.0002	56.6	0.0000	146.6
16	24.9	0.001	132.6	0.0001	58.2	0.0000	148.2
17	26.3	0.002	-177.2	0.0000	45.3	0.0000	135.3
18	27.7	0.003	-158.7	0.0001	25.9	0.0000	115.9

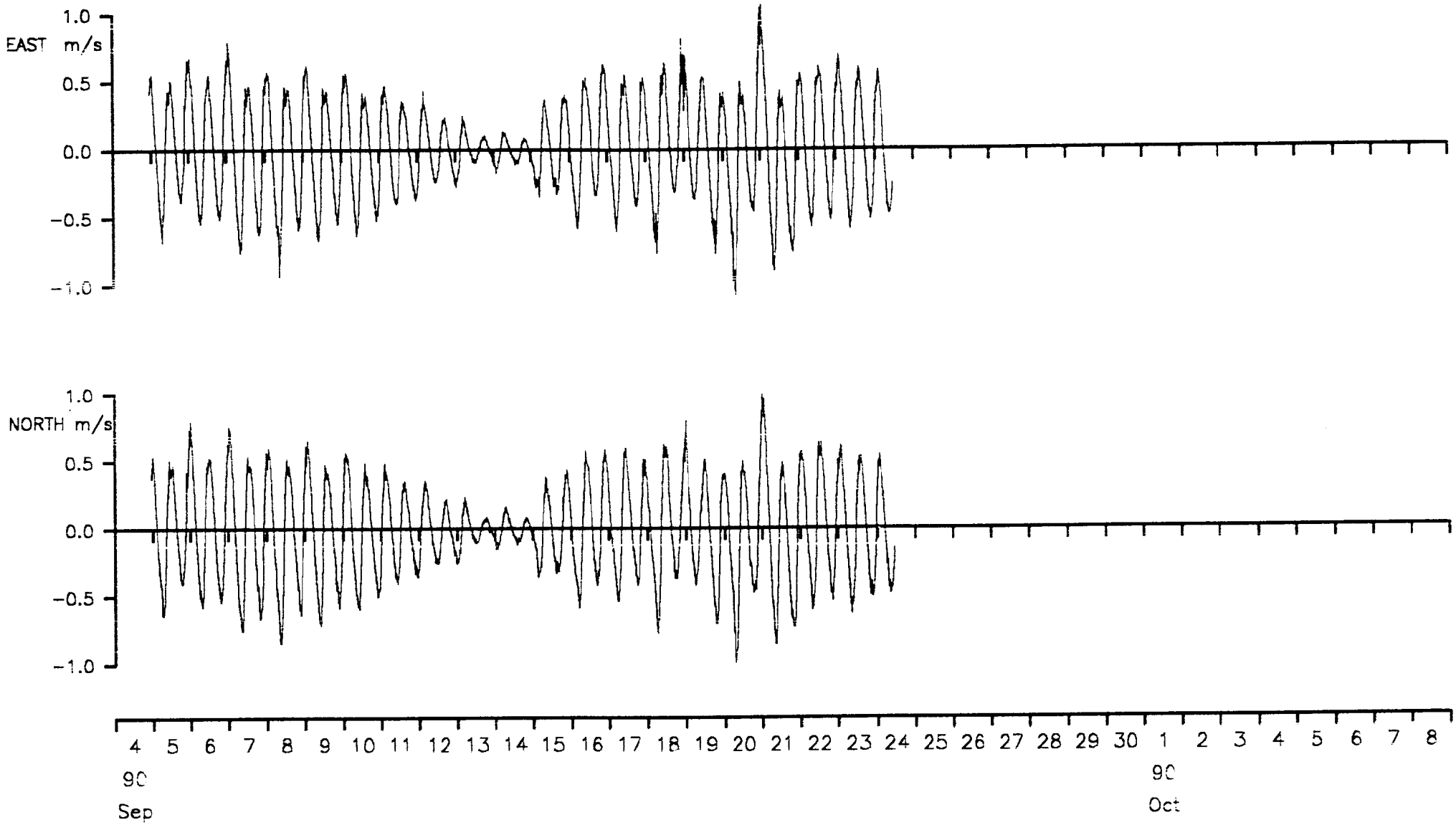
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



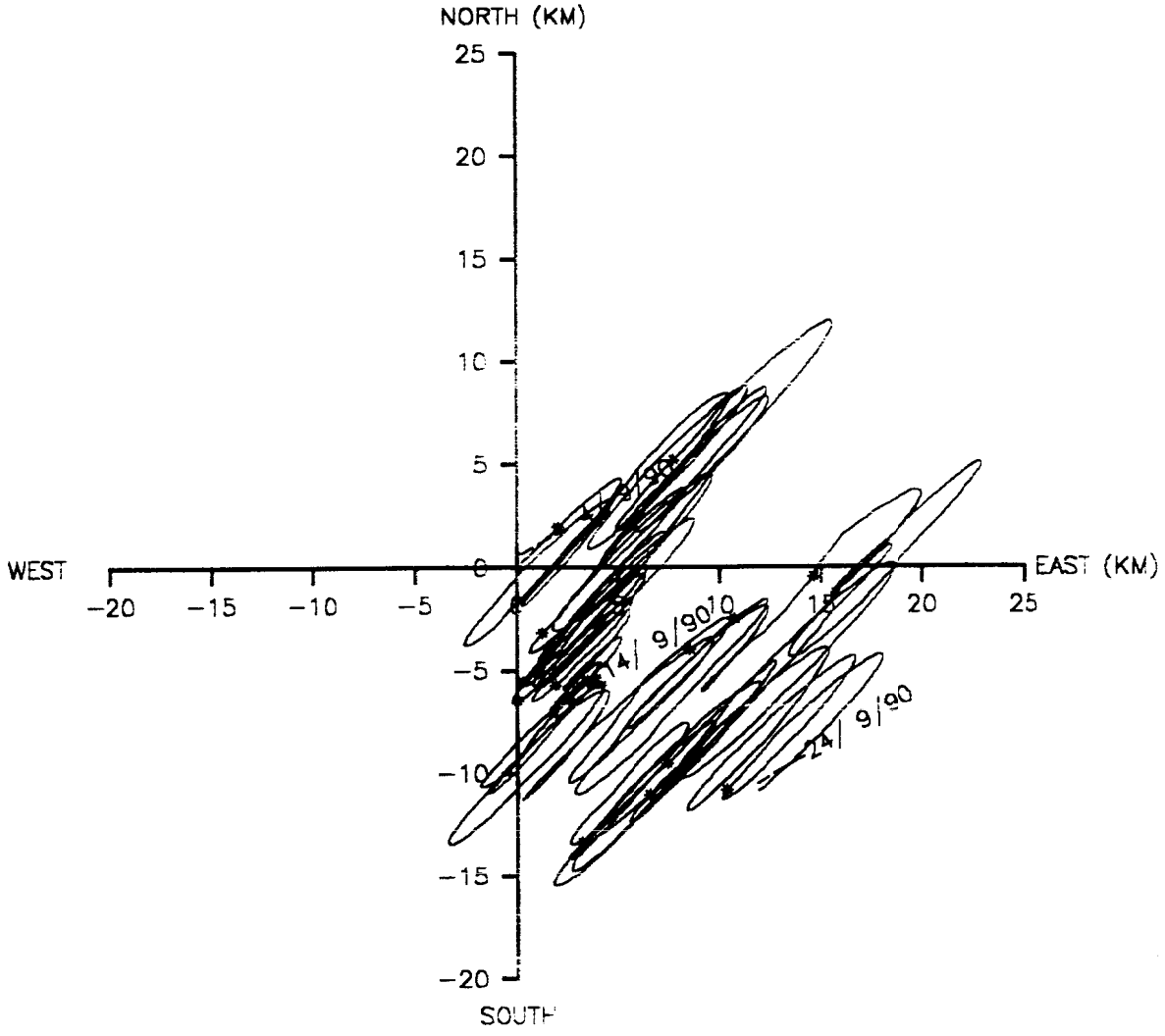
VECTOR PLOT

Meter no. 0010 Rig no. 00438 Depth of water(m) 30.0

Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004387 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0070	0.13229811E+00	0.36372817E+00
Northings	-0.0065	0.13200003E+00	0.36331815E+00
Speed	0.4362	0.74053824E-01	0.27212828E+00

Vector mean speed 0.0096
Vector Mean Direction 132.6

Maximum ten values

Eastings					Northings				
1.058	1.035	0.989	0.977	0.966	0.981	0.957	0.956	0.952	0.935
0.953	0.917	0.914	0.911	0.905	0.905	0.896	0.890	0.883	0.866

Minimum ten values

Eastings					Northings				
-0.921	-0.937	-0.941	-0.944	-0.975	-0.858	-0.888	-0.908	-0.926	-0.944
-0.980	-0.995	-1.015	-1.043	-1.076	-0.946	-0.961	-0.961	-0.969	-0.997

Maximum speeds

1.396	1.395	1.384	1.383	1.369	1.361	1.359	1.346	1.337	1.337
1.334	1.326	1.322	1.322	1.319	1.315	1.313	1.308	1.280	1.270
1.264	1.255	1.242	1.209	1.208	1.203	1.199	1.174	1.174	1.167
1.162	1.161	1.160	1.156	1.133	1.126	1.118	1.110	1.109	1.104
1.098	1.076	1.070	1.066	1.062	1.059	1.054	1.051	1.050	1.047
1.046	1.043	1.043	1.038	1.037	1.037	1.034	1.034	1.033	1.028
1.026	1.023	1.022	1.021	1.018	1.016	1.007	1.003	1.003	1.001
0.996	0.996	0.996	0.995	0.994	0.994	0.993	0.992	0.992	0.991
0.989	0.987	0.986	0.985	0.984	0.981	0.979	0.979	0.977	0.972
0.970	0.969	0.969	0.964	0.963	0.962	0.961	0.960	0.959	0.959

Variance ellipse statistics

Maximum variance 0.2609E+00 Direction 45.0

Minimum variance 0.3424E-02 Direction 135.0

Total variance 0.2643E+00 Ratio of variances 0.1312E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 3.7

Average direction. maxdir +PI/2 to maxdir -PI/2 176.9

Statistics for DP0010 004387F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0009	0.32385725E-02	0.56908455E-01
Northings	-0.0107	0.21344770E-02	0.46200398E-01
Speed	0.0492	0.30256545E-02	0.55005949E-01

Vector mean speed 0.0107
Vector Mean Direction 175.0

Maximum ten values

Eastings					Northings				
0.159	0.130	0.128	0.082	0.073	0.115	0.093	0.086	0.050	0.046
0.068	0.067	0.057	0.051	0.047	0.044	0.039	0.038	0.029	0.022

Minimum ten values

Eastings					Northings				
-0.024	-0.025	-0.028	-0.042	-0.051	-0.026	-0.026	-0.038	-0.050	-0.058
-0.052	-0.083	-0.096	-0.166	-0.169	-0.059	-0.087	-0.090	-0.150	-0.154

Maximum speeds

0.226	0.226	0.196	0.158	0.156	0.130	0.122	0.096	0.083	0.081
0.081	0.079	0.077	0.068	0.066	0.055	0.054	0.047	0.043	0.037
0.035	0.033	0.032	0.030	0.028	0.026	0.025	0.022	0.022	0.021
0.020	0.020	0.019	0.019	0.018	0.018	0.018	0.017	0.017	0.017
0.016	0.016	0.015	0.014	0.014	0.014	0.012	0.012	0.010	0.010
0.010	0.008	0.007	0.005	0.005					

Variance ellipse statistics

Maximum variance 0.5353E-02 Direction 51.0

Minimum variance 0.2052E-04 Direction 141.0

Total variance 0.5373E-02 Ratio of variances 0.3834E-02

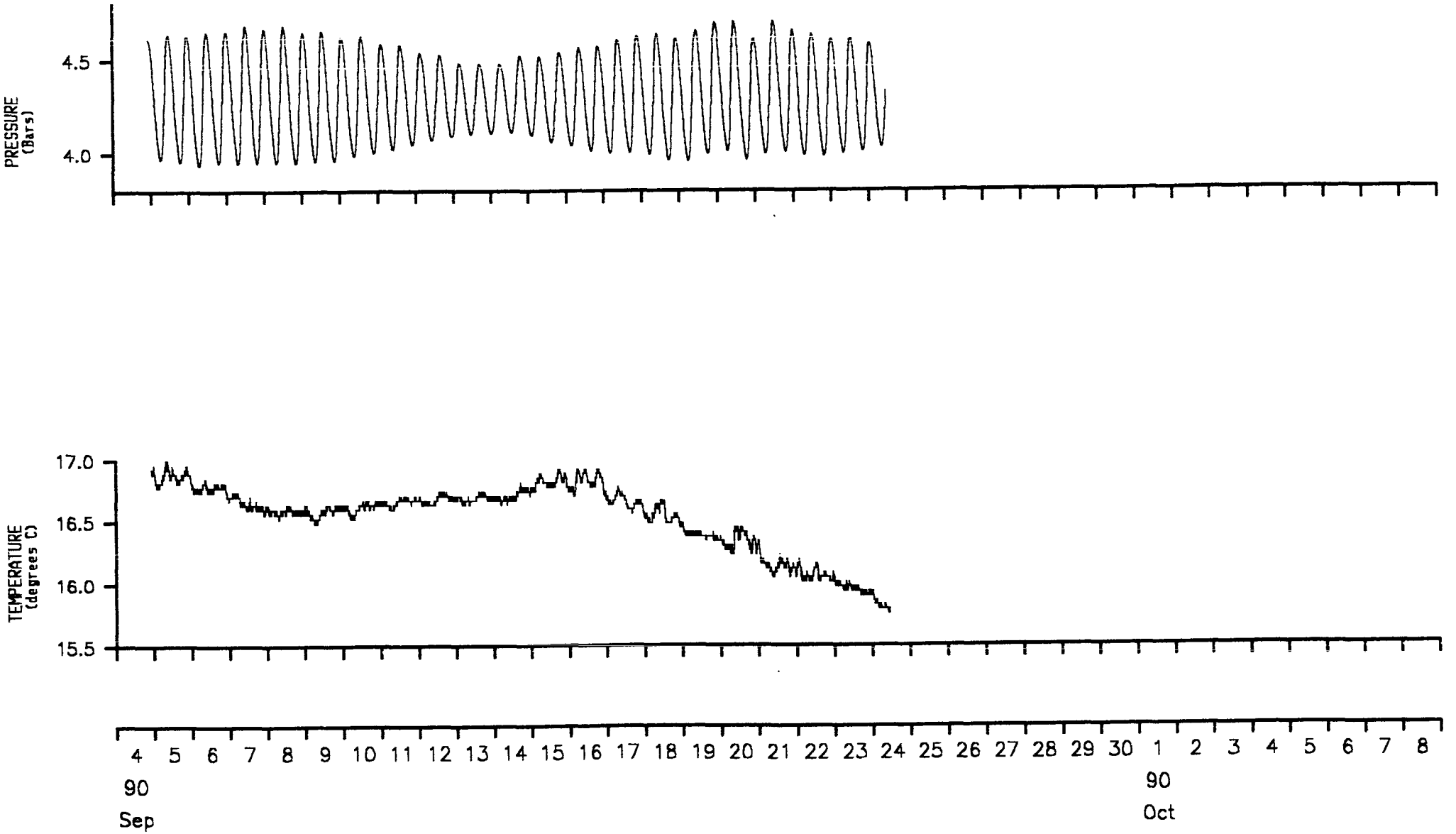
Average direction. maxdir -PI/2 to maxdir +PI/2 16.5

Average direction. maxdir +PI/2 to maxdir -PI/2 154.2

Meter information details for 1038

Rig No	:	00438
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	21-AUG-90 15:40:00
Meter stopped	:	24-SEPT-90 13:00:41
Period switched on	:	33.9 days
Period of good data	:	19.5 days
Total number of scans	:	2811
Timing error	:	41 seconds slow
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00438 Depth of water(m) 30.0
Start/End 1990/09/04 AT 23:00:00 1990/09/24 AT 11:25:00
Position 50 56.60N 01 15.60E Meter Height(m) 0.5



Rig information details for 00440

Position Latitude	:	50 56.60N
Position Longitude	:	01 15.60E
Water depth	:	30.0 m
Deployed on cruise	:	C72
Recovered on cruise	:	C72
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	24-SEPT-90 16:50:00
Rig recovered on	:	18-OCT-90 08:25:00
Period of deployment	:	23.6 days
Comments	:	Launch and recovery successful

Meter information details for 0010

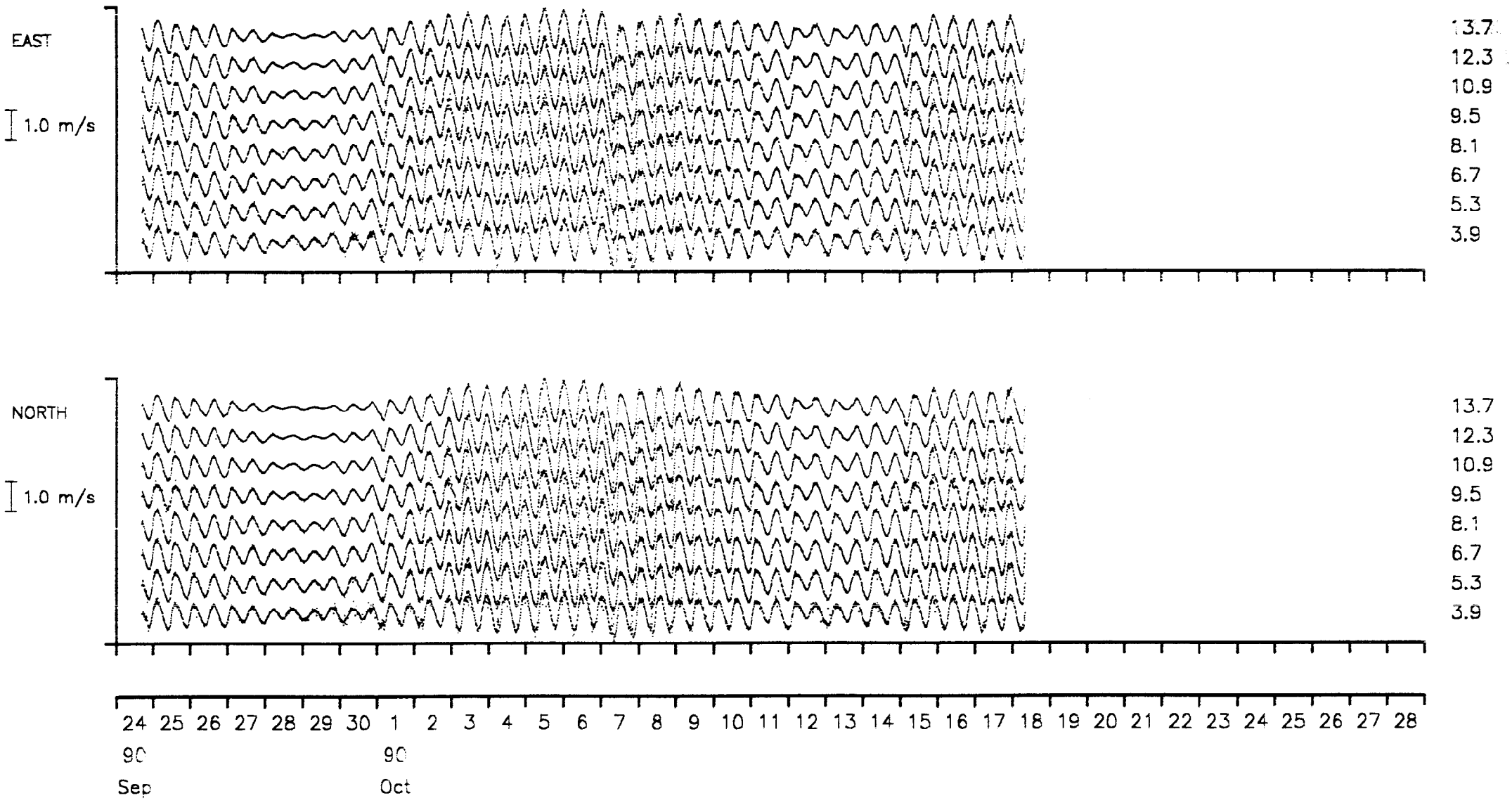
Rig No	:	00440
Meter No	:	0010
Frame angle correction	:	53.9 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	24-SEPT-90 14:38:41
Meter stopped	:	18-OCT-90 08:38:46
Period switched on	:	23.8 days
Period of good data	:	23.6 days
Total number of scans	:	3405
Timing error	:	5 seconds slow
Comments	:	Good record obtained
		Channel 1 recording Beam 2 and vice versa
		Possible mean shift problem on the 07-OCT-90

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

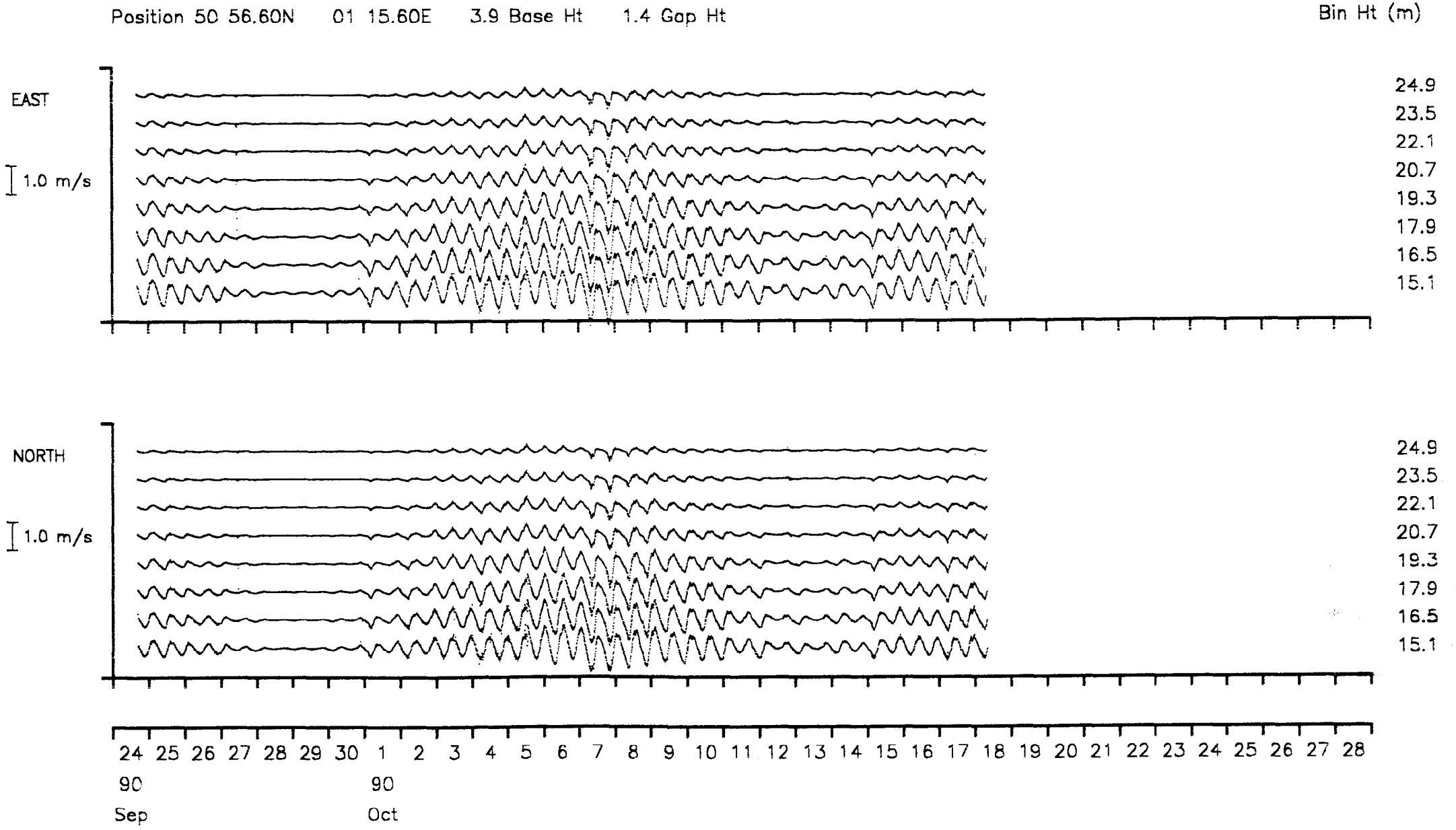


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

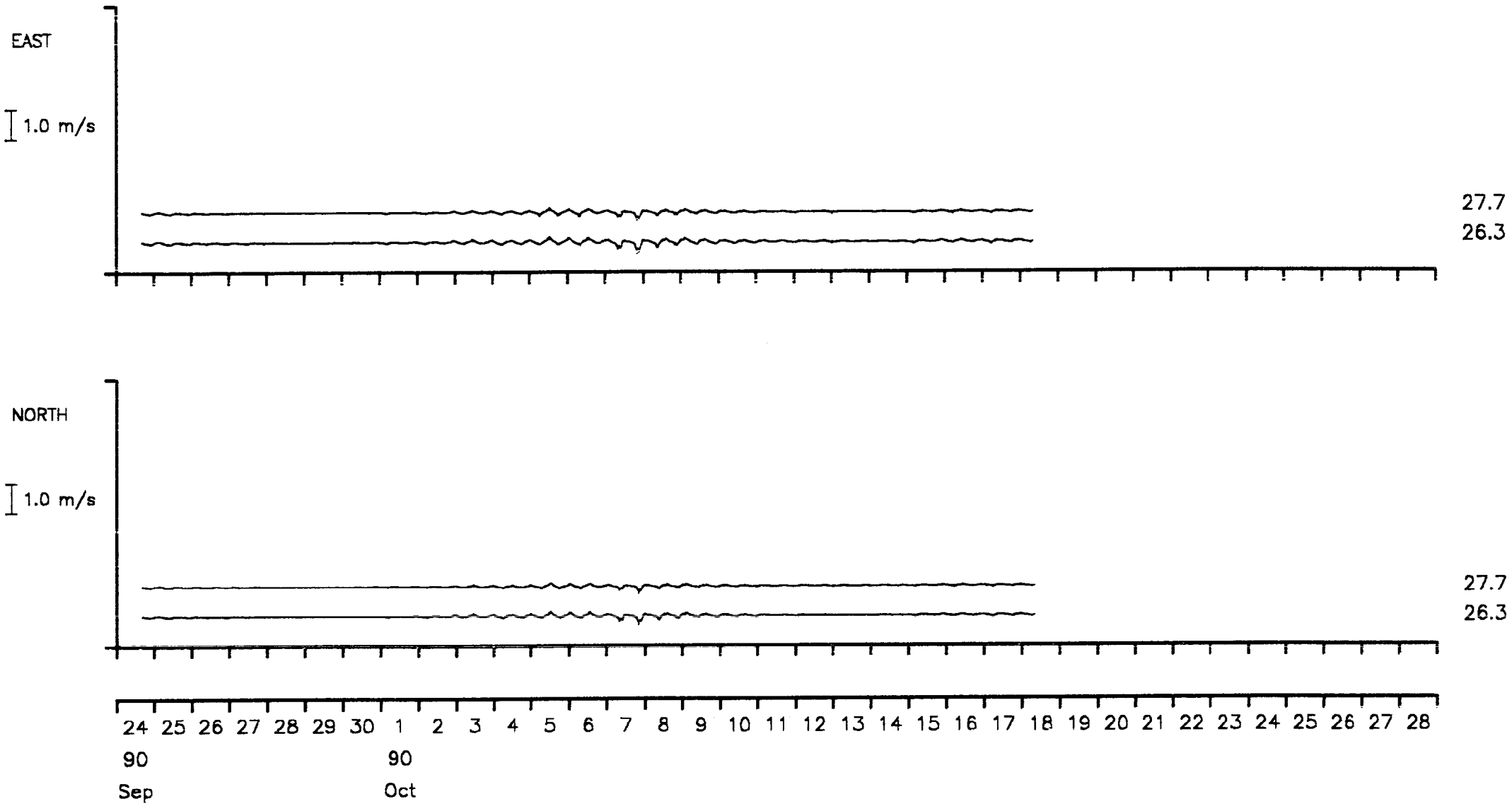


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht



SCATTER PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

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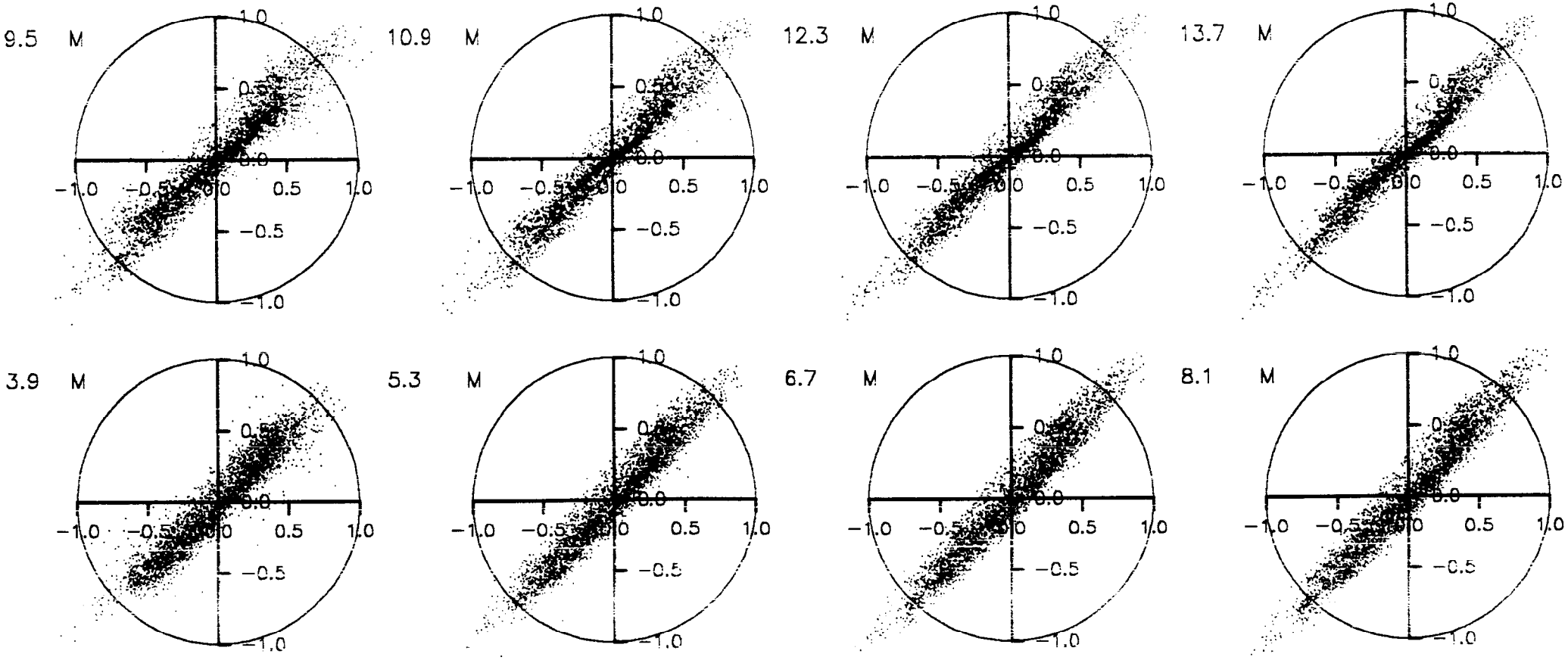

SCATTER PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

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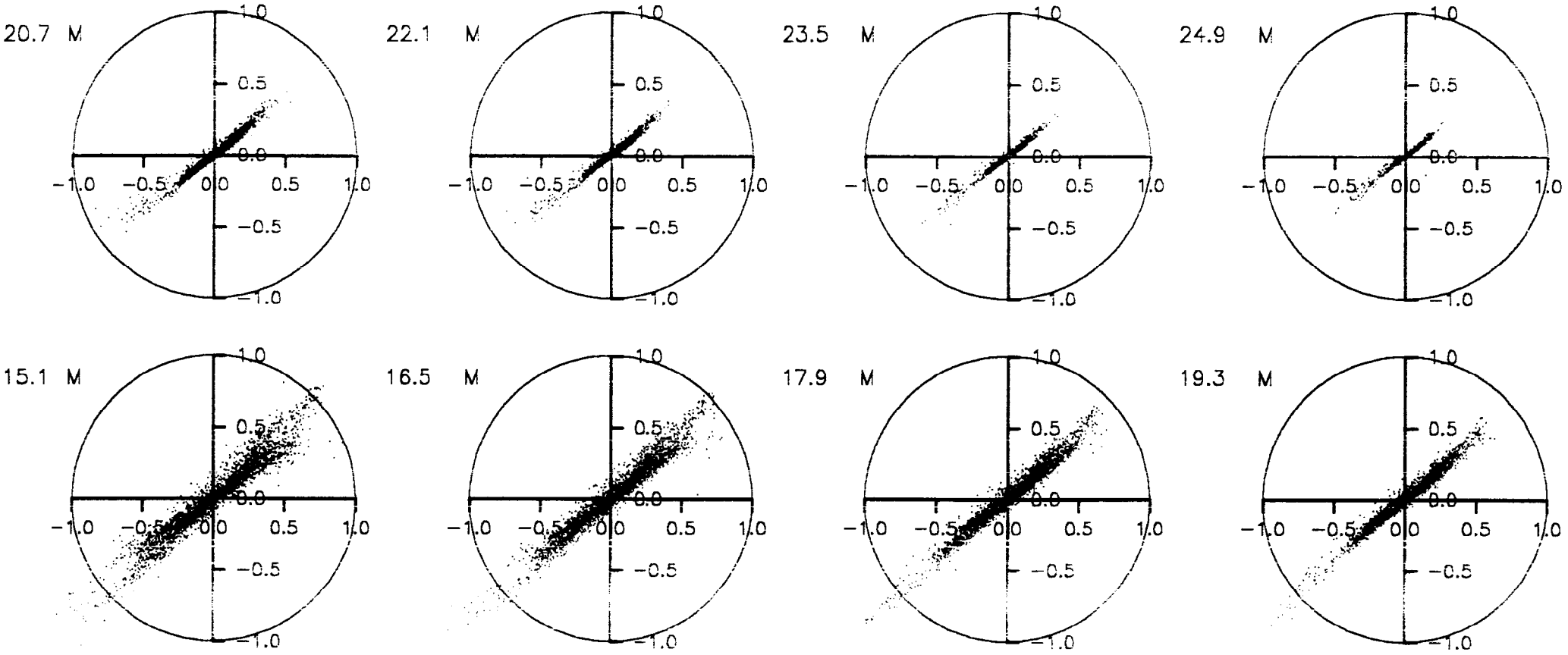

SCATTER PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

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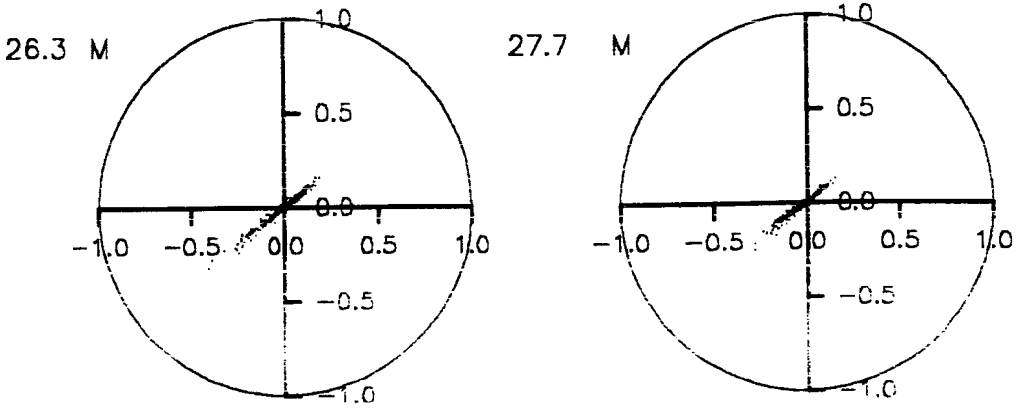
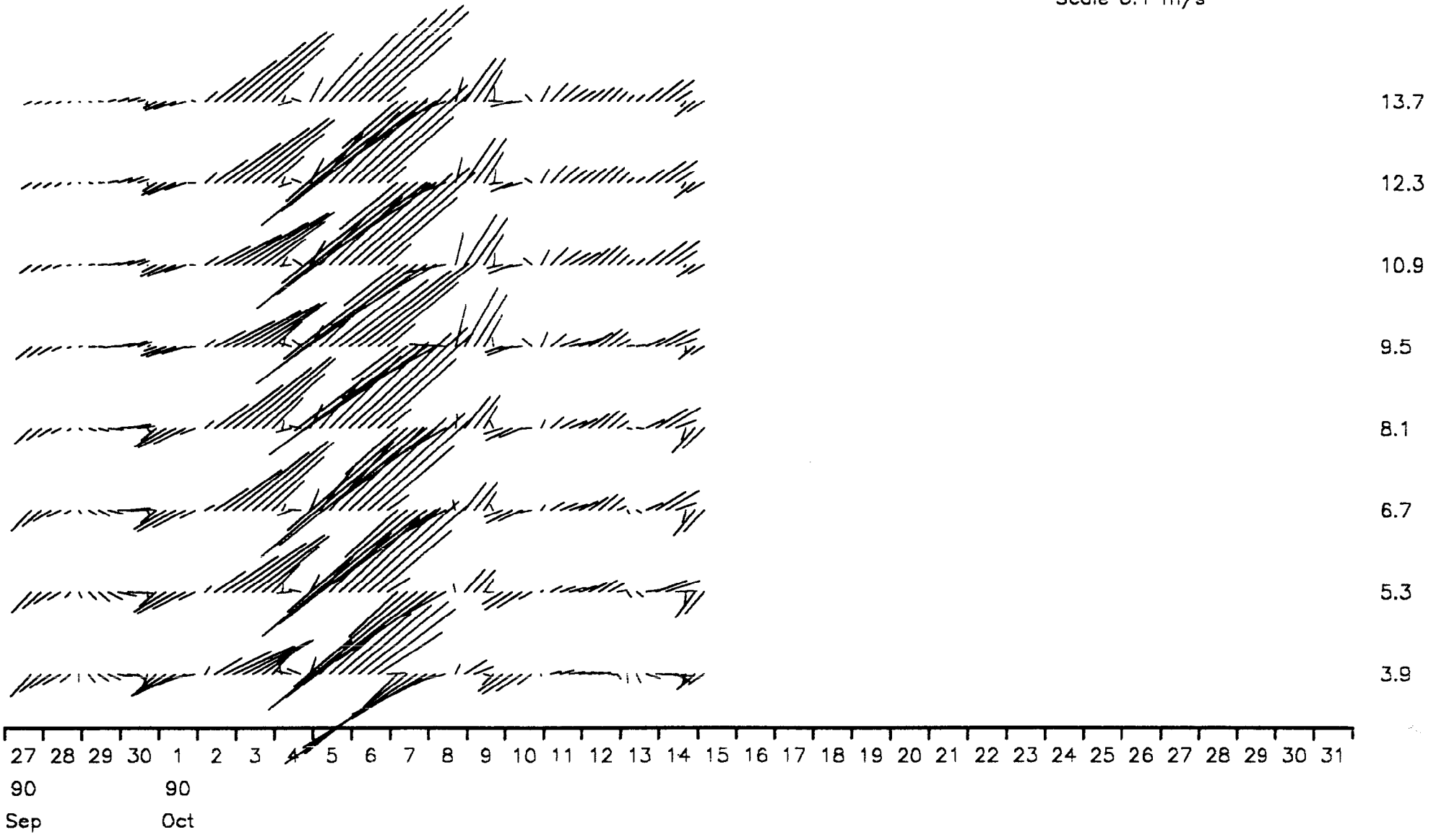


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

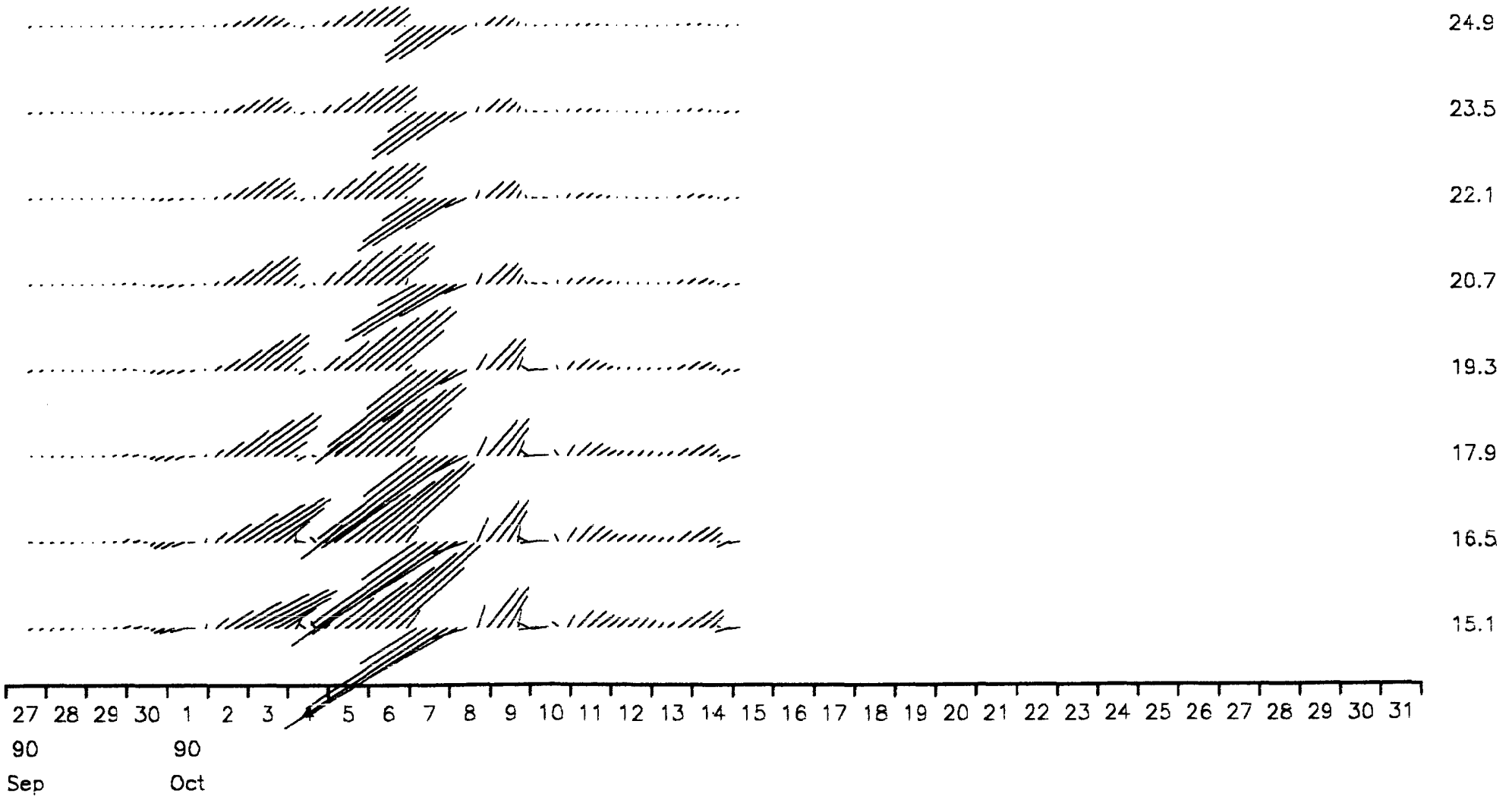
Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STICK TIME SERIES PLOT

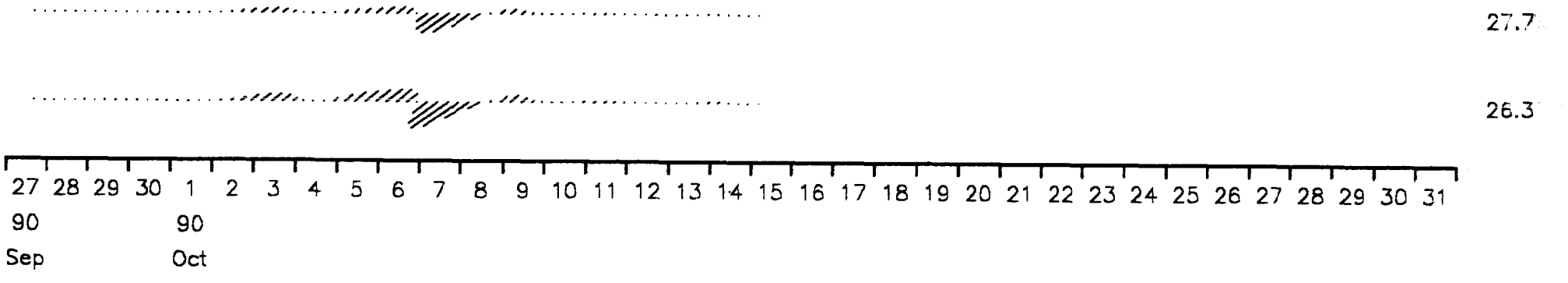
Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0010 00440

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.008	-168.3	0.2268	45.7	0.0058	135.7
2	5.3	0.003	129.9	0.2882	43.2	0.0045	133.2
3	6.7	0.004	55.6	0.3171	42.9	0.0047	132.9
4	8.1	0.009	41.4	0.3297	43.0	0.0046	133.0
5	9.5	0.014	42.2	0.2758	46.6	0.0061	136.6
6	10.9	0.016	37.8	0.2874	45.4	0.0048	135.4
7	12.3	0.017	33.5	0.2740	45.0	0.0037	135.0
8	13.7	0.018	32.1	0.2392	45.5	0.0030	135.5
9	15.1	0.017	38.9	0.1489	49.7	0.0025	139.7
10	16.5	0.017	37.1	0.1241	49.5	0.0015	139.5
11	17.9	0.014	39.9	0.0885	49.3	0.0008	139.3
12	19.3	0.011	39.7	0.0588	49.8	0.0005	139.8
13	20.7	0.008	36.8	0.0272	52.0	0.0003	142.0
14	22.1	0.005	35.6	0.0169	52.2	0.0001	142.2
15	23.5	0.003	33.4	0.0097	52.0	0.0001	142.0
16	24.9	0.002	34.6	0.0052	52.6	0.0000	142.6
17	26.3	0.001	45.5	0.0025	52.8	0.0000	142.8
18	27.7	0.001	-108.2	0.0014	53.6	0.0000	143.6

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.005	102.3	0.0084	56.1	0.0002	146.1
2	5.3	0.012	63.1	0.0120	51.8	0.0002	141.8
3	6.7	0.015	48.6	0.0136	50.6	0.0001	140.6
4	8.1	0.020	44.1	0.0142	50.2	0.0001	140.2
5	9.5	0.024	45.2	0.0111	55.0	0.0002	145.0
6	10.9	0.025	40.7	0.0131	53.5	0.0002	143.5
7	12.3	0.024	38.2	0.0135	51.4	0.0001	141.4
8	13.7	0.024	36.9	0.0129	50.8	0.0001	140.8
9	15.1	0.020	39.1	0.0090	55.9	0.0001	145.9
10	16.5	0.019	38.8	0.0086	54.2	0.0001	144.2
11	17.9	0.015	40.8	0.0074	52.7	0.0000	142.7
12	19.3	0.012	40.6	0.0058	52.1	0.0000	142.1
13	20.7	0.009	35.6	0.0029	55.6	0.0000	145.6
14	22.1	0.006	34.2	0.0021	54.8	0.0000	144.8
15	23.5	0.003	33.4	0.0014	53.4	0.0000	143.4
16	24.9	0.002	31.7	0.0008	53.7	0.0000	143.7
17	26.3	0.001	42.9	0.0004	53.8	0.0000	143.8
18	27.7	0.001	-110.0	0.0002	54.0	0.0000	144.0

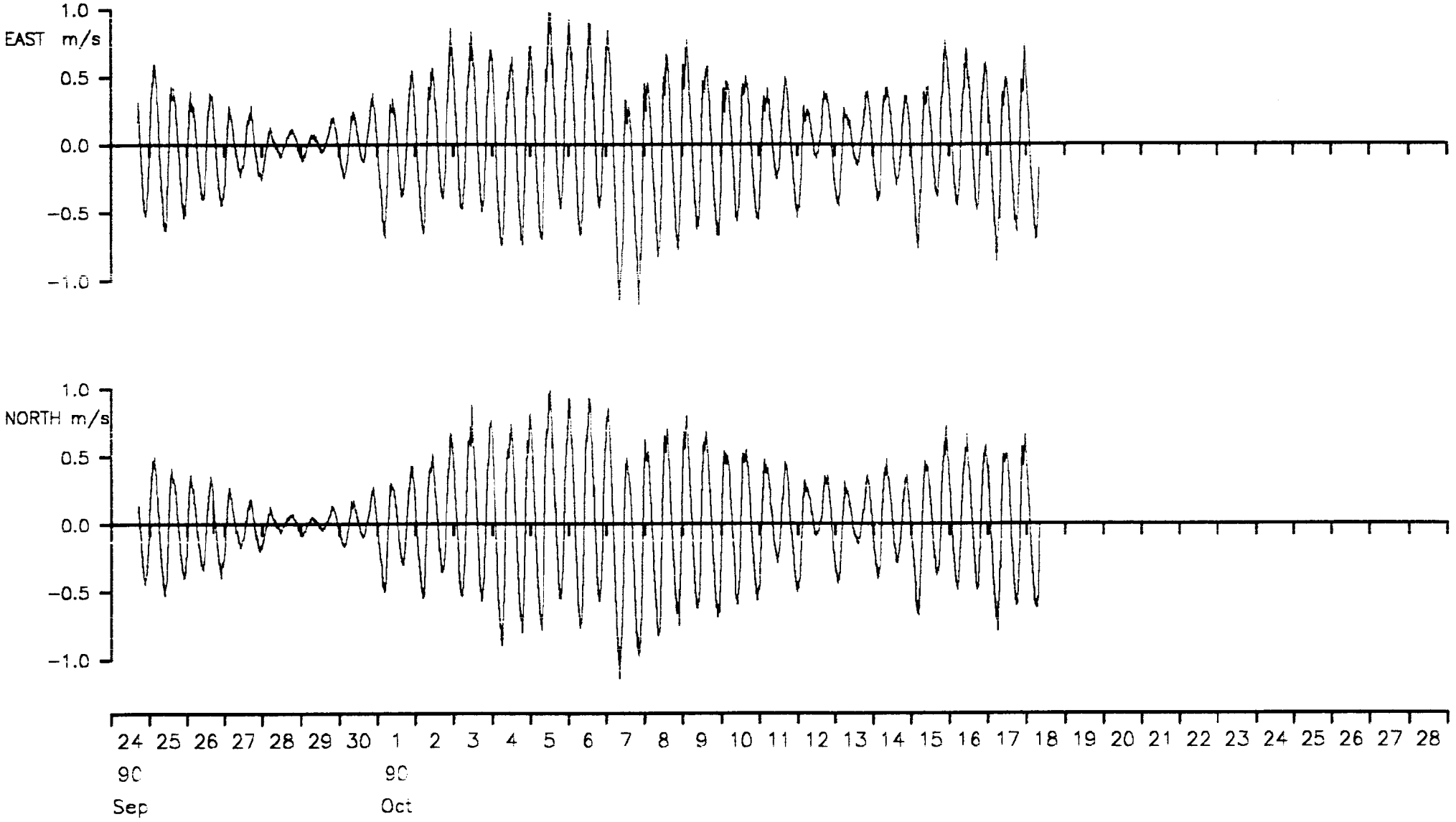
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



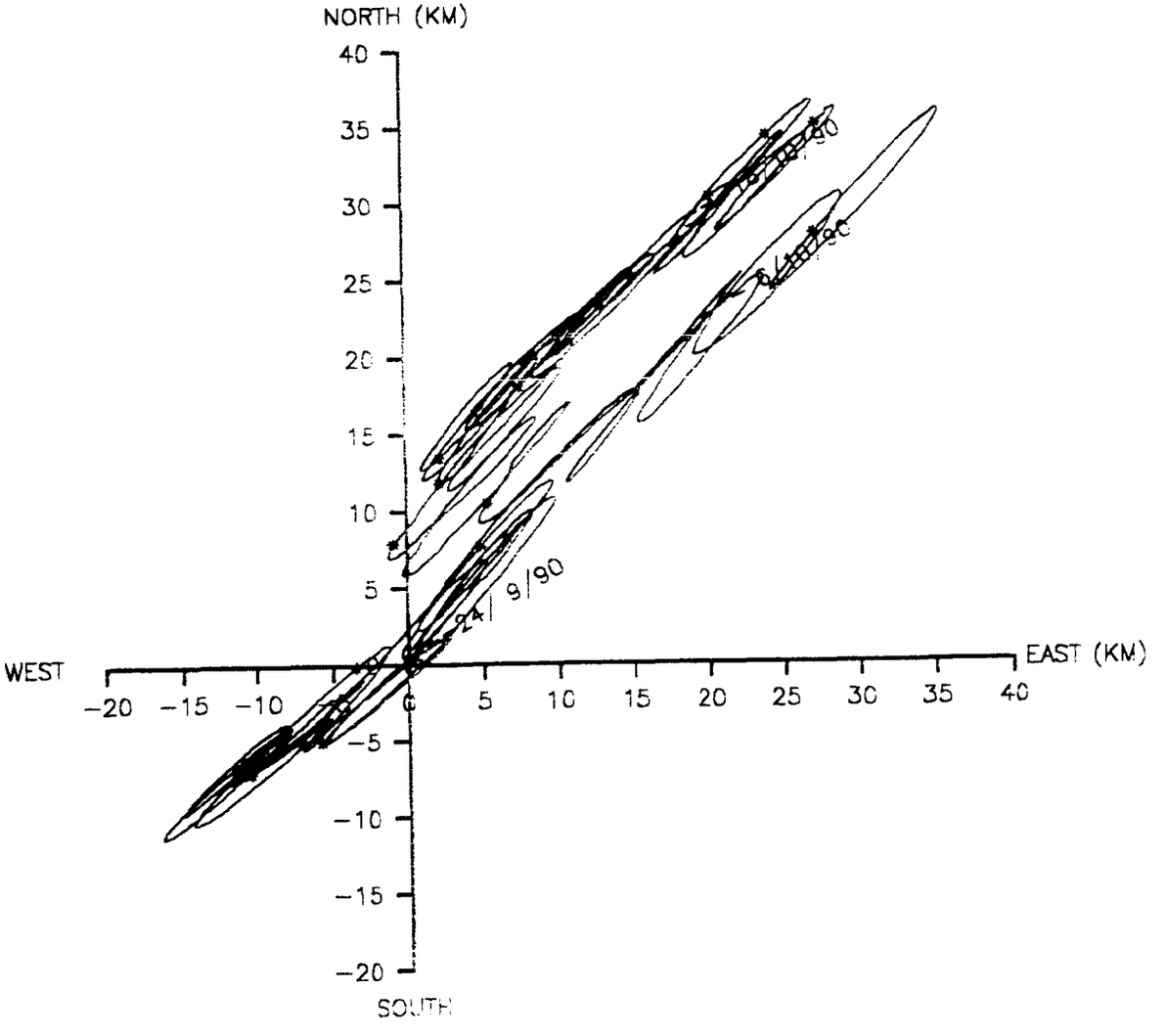
VECTOR PLOT

Meter no. 0010 Rig no. 00440 Depth of water(m) 30.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004407 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0092	0.13880742E+00	0.37256861E+00
Northings	0.0139	0.13896626E+00	0.37278181E+00
Speed	0.4326	0.90866923E-01	0.30144149E+00

Vector mean speed 0.0166
Vector Mean Direction 33.5

Maximum ten values

Eastings					Northings				
0.969	0.964	0.921	0.917	0.916	0.985	0.972	0.967	0.956	0.954
0.899	0.893	0.891	0.885	0.885	0.936	0.930	0.928	0.925	0.920

Minimum ten values

Eastings					Northings				
-1.027	-1.037	-1.063	-1.079	-1.097	-0.951	-0.967	-0.974	-0.979	-0.987
-1.105	-1.108	-1.147	-1.149	-1.181	-1.015	-1.035	-1.044	-1.107	-1.143

Maximum speeds

1.621	1.594	1.508	1.501	1.471	1.471	1.454	1.450	1.419	1.401
1.396	1.391	1.389	1.383	1.378	1.369	1.369	1.356	1.351	1.345
1.339	1.324	1.322	1.316	1.313	1.310	1.296	1.294	1.289	1.281
1.271	1.269	1.264	1.260	1.252	1.249	1.239	1.239	1.233	1.227
1.227	1.226	1.219	1.219	1.213	1.213	1.205	1.204	1.201	1.201
1.193	1.192	1.186	1.183	1.182	1.180	1.180	1.176	1.173	1.170
1.166	1.166	1.164	1.163	1.161	1.154	1.151	1.145	1.140	1.139
1.138	1.138	1.130	1.127	1.123	1.122	1.120	1.118	1.114	1.113
1.110	1.108	1.108	1.107	1.106	1.105	1.102	1.102	1.102	1.102
1.101	1.101	1.100	1.094	1.094	1.089	1.085	1.084	1.081	1.075

Variance ellipse statistics

Maximum variance 0.2740E+00 Direction 45.0

Minimum variance 0.3734E-02 Direction 135.0

Total variance 0.2778E+00 Ratio of variances 0.1363E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 2.8

Average direction. maxdir +PI/2 to maxdir -PI/2 180.8

Statistics for DP0010 004407F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0150	0.82767271E-02	0.90976477E-01
Northings	0.0190	0.53026788E-02	0.72819471E-01
Speed	0.0795	0.77692308E-02	0.88143229E-01

Vector mean speed 0.0242
Vector Mean Direction 38.2

Maximum ten values

Eastings					Northings				
0.201	0.192	0.187	0.163	0.160	0.179	0.171	0.168	0.155	0.130
0.152	0.140	0.139	0.128	0.115	0.120	0.119	0.116	0.101	0.092

Minimum ten values

Eastings					Northings				
-0.039	-0.041	-0.046	-0.051	-0.077	-0.018	-0.021	-0.022	-0.027	-0.029
-0.106	-0.188	-0.232	-0.276	-0.296	-0.085	-0.125	-0.184	-0.204	-0.229

Maximum speeds

0.375	0.343	0.296	0.270	0.255	0.254	0.226	0.225	0.199	0.191
0.184	0.183	0.173	0.146	0.136	0.126	0.121	0.100	0.100	0.083
0.077	0.075	0.070	0.068	0.066	0.055	0.051	0.050	0.047	0.046
0.045	0.045	0.044	0.043	0.043	0.041	0.041	0.041	0.041	0.039
0.039	0.038	0.037	0.036	0.031	0.030	0.028	0.028	0.027	0.027
0.026	0.025	0.024	0.022	0.021	0.018	0.018	0.017	0.017	0.016
0.015	0.014	0.013	0.012	0.012	0.011	0.010	0.006	0.006	0.004
0.002									

Variance ellipse statistics

Maximum variance 0.1348E-01 Direction 51.4

Minimum variance 0.1018E-03 Direction 141.4

Total variance 0.1358E-01 Ratio of variances 0.7550E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 0.9

Average direction. maxdir +PI/2 to maxdir -PI/2 192.7

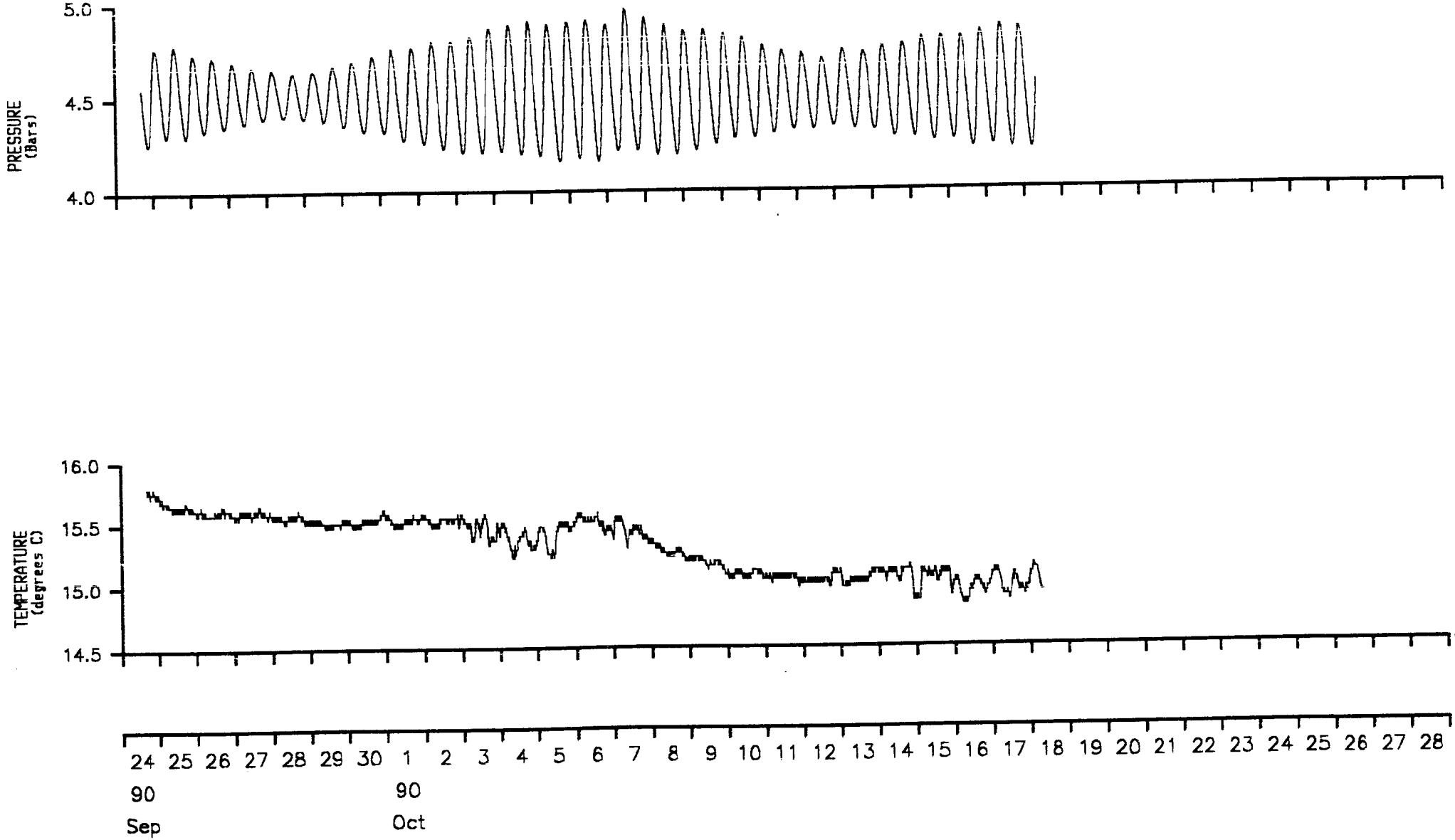
Meter information details for 1038

Rig No	:	00440
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	24-SEPT-90 13:30:40
Meter stopped	:	18-OCT-90 20:20:41
Period switched on	:	24.3 days
Period of good data	:	23.7 days
Total number of scans	:	3406
Timing error	:	1 second slow
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00440 Depth of water(m) 40.0

Start/End 1990/09/24 AT 16:50:00 1990/10/18 AT 08:25:00

Position 50 56.60N 01 15.60E Meter Height(m) 0.5



Rig information details for 00454

Position Latitude	:	50 56.47N
Position Longitude	:	01 17.74E
Water depth	:	30.0 m
Deployed on cruise	:	C72
Recovered on cruise	:	H.A.M.
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	18-OCT-90 09:00:00
Rig recovered on	:	20-NOV-90 12:15:00
Period of deployment	:	33.1 days
Comments	:	Launch and recovery successful

Meter information details for 0004

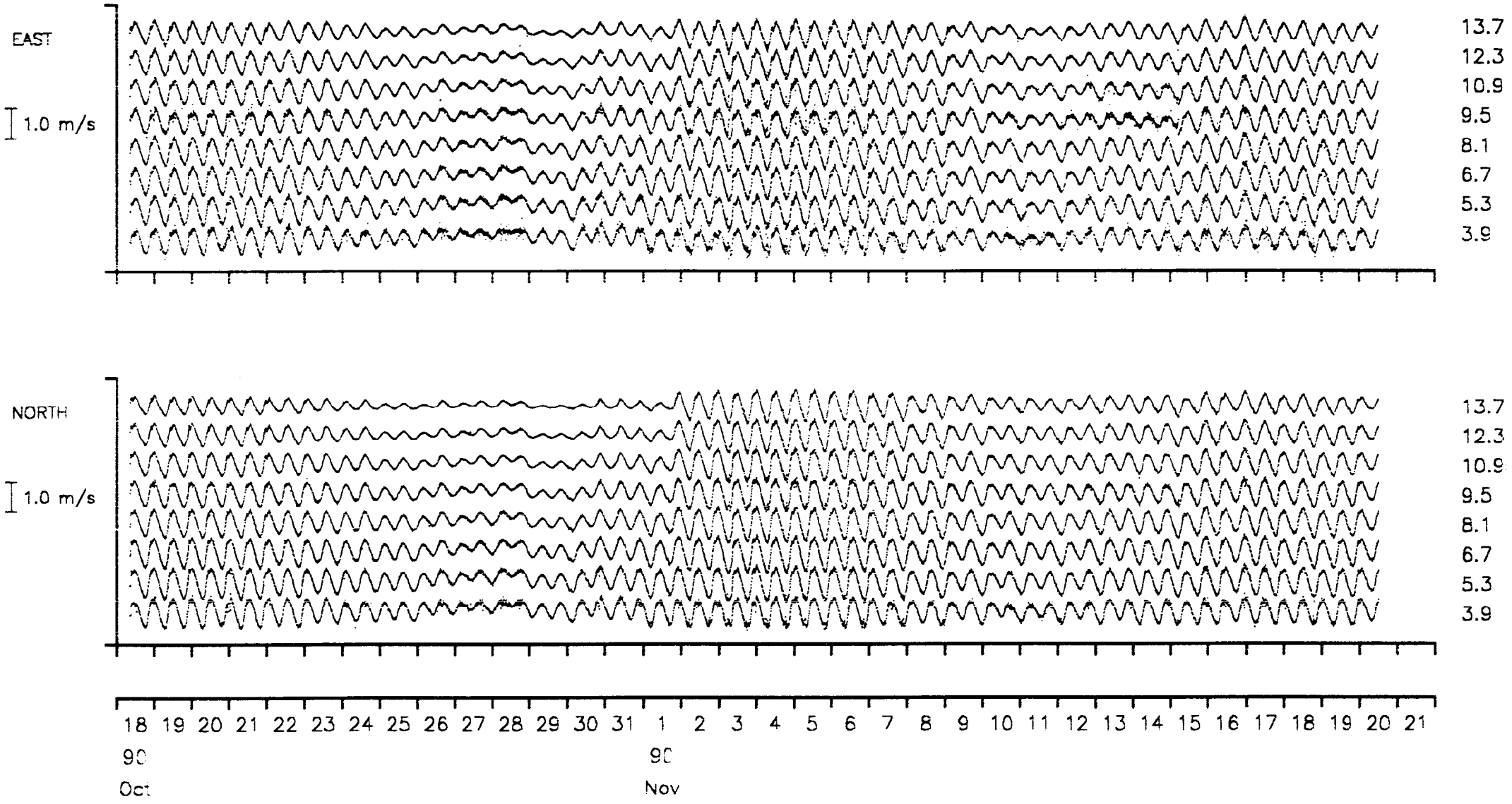
Rig No	:	00454
Meter No	:	0004
Frame angle correction	:	110.8 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	18-OCT-90 07:09:15
Meter stopped	:	20-NOV-90 12:39:11
Period switched on	:	33.2 days
Period of good data	:	33.1 days
Total number of scans	:	4771
Timing error	:	4 seconds fast
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

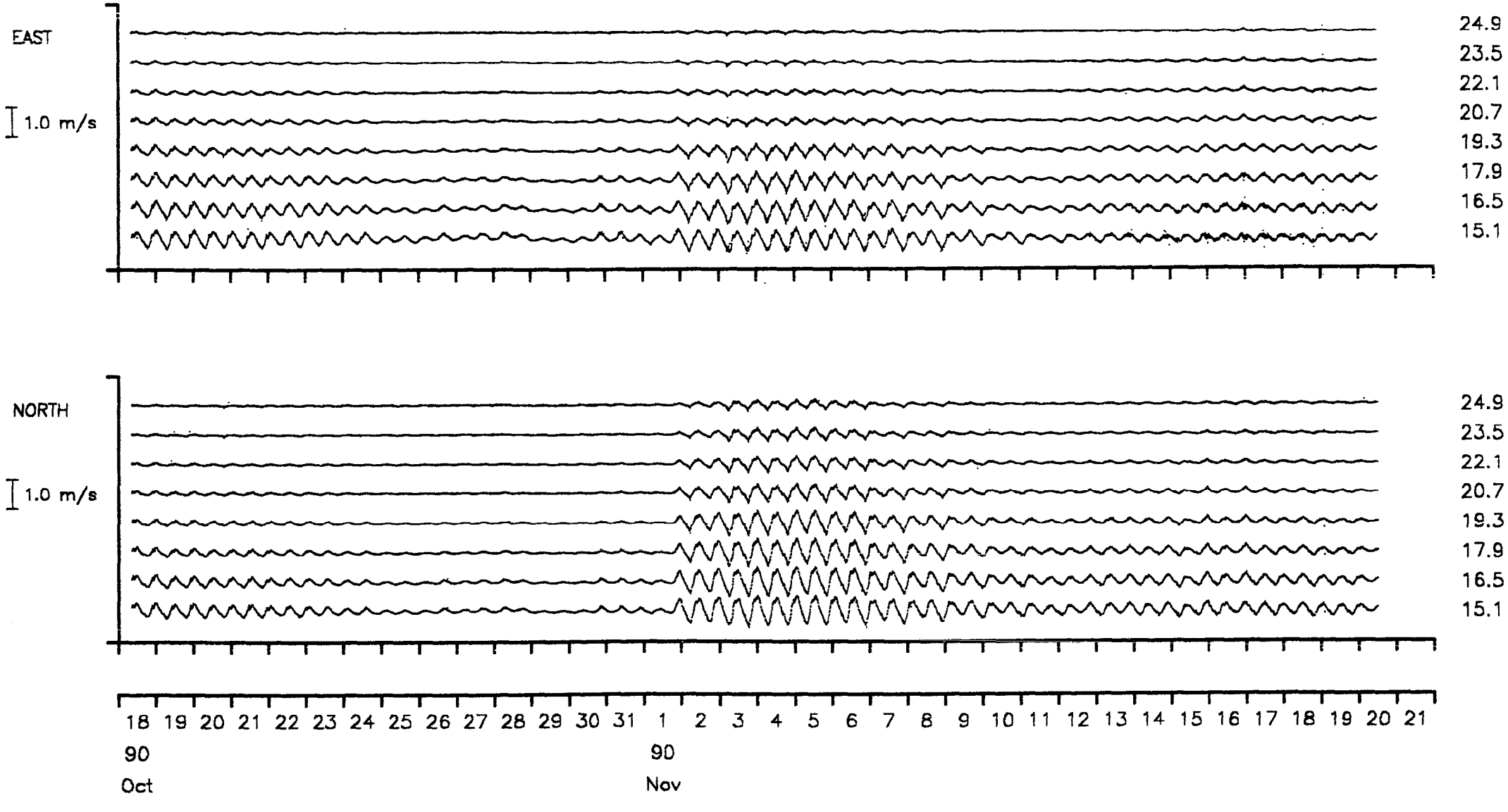


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

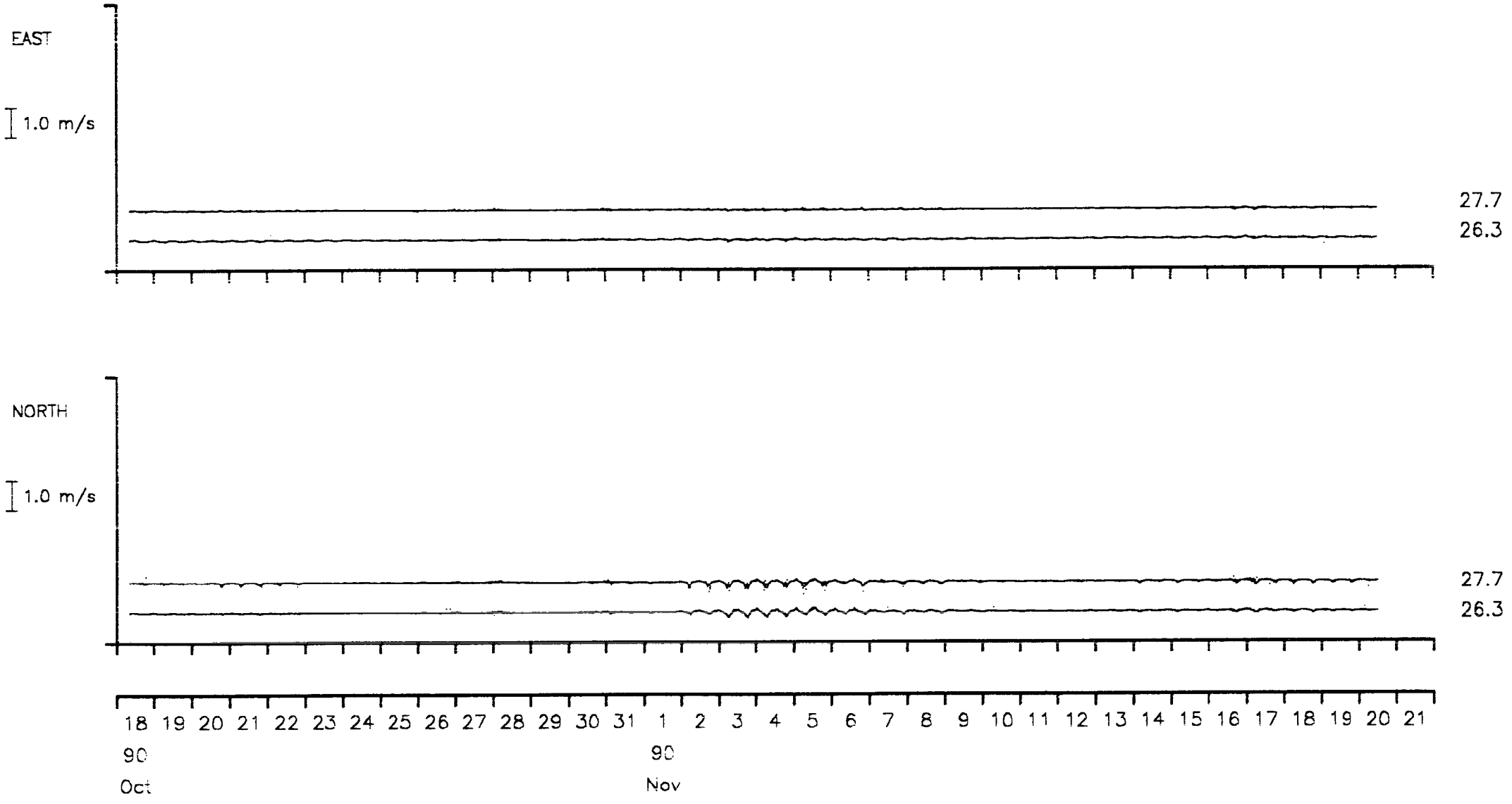


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

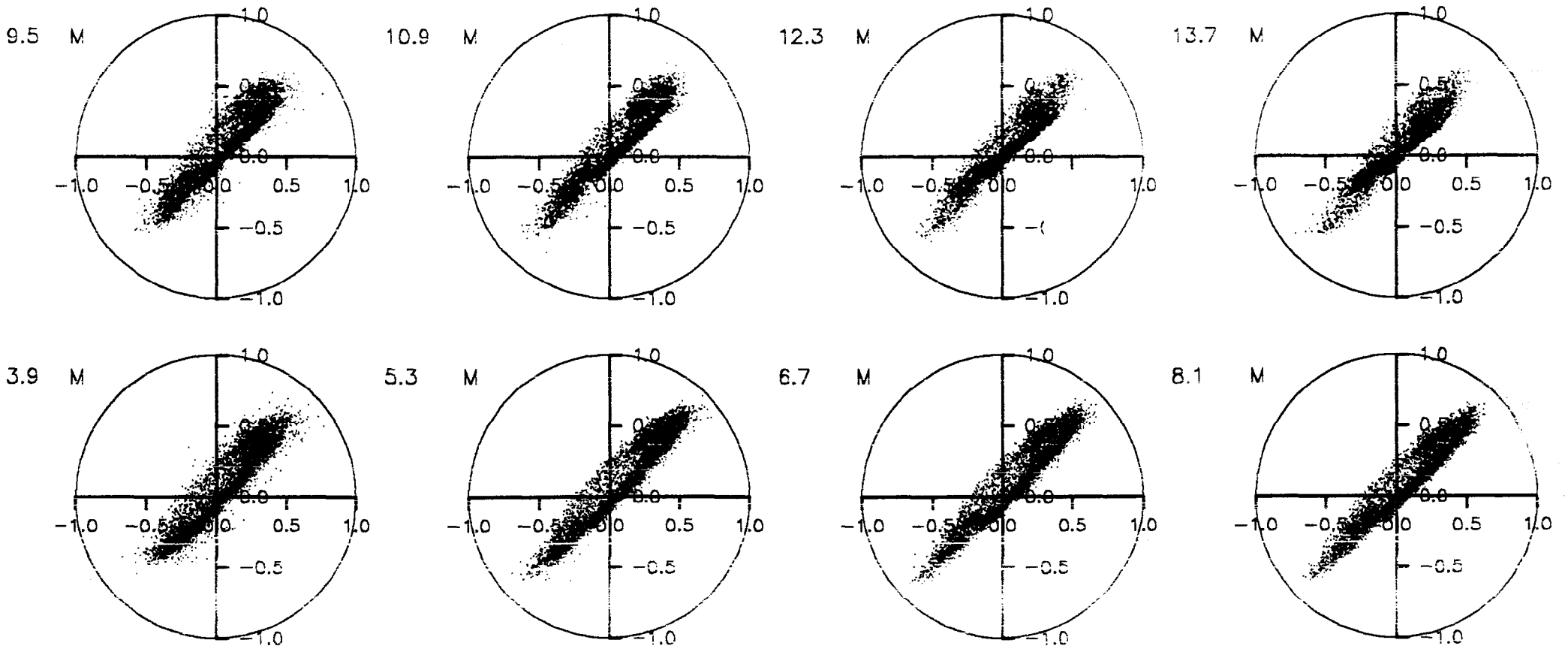


SCATTER PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

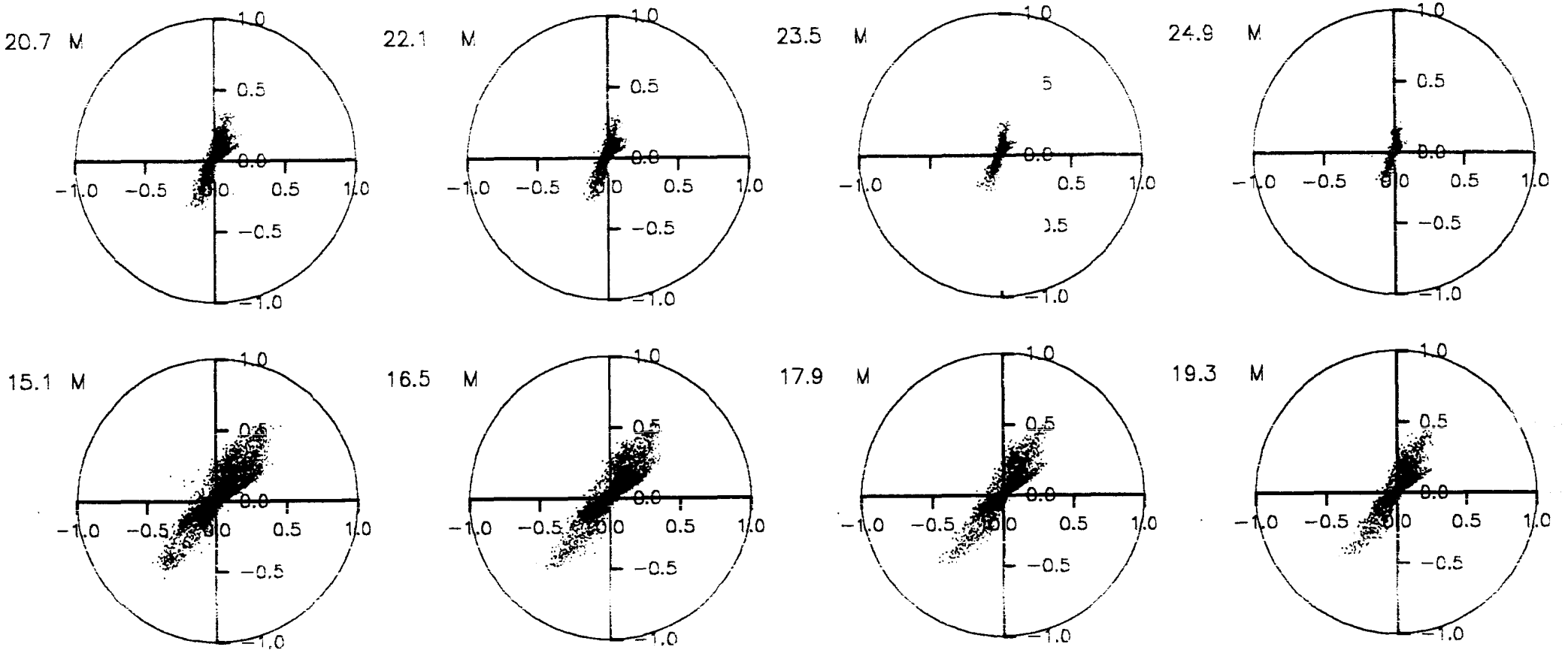


SCATTER PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

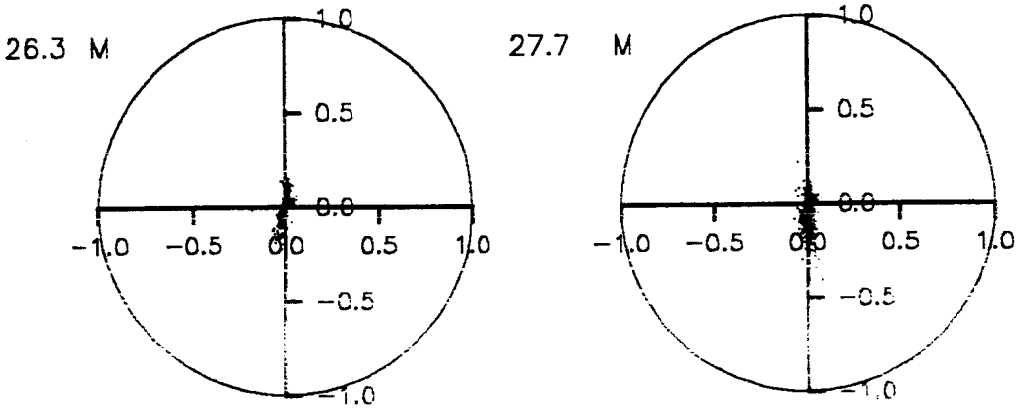


SCATTER PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

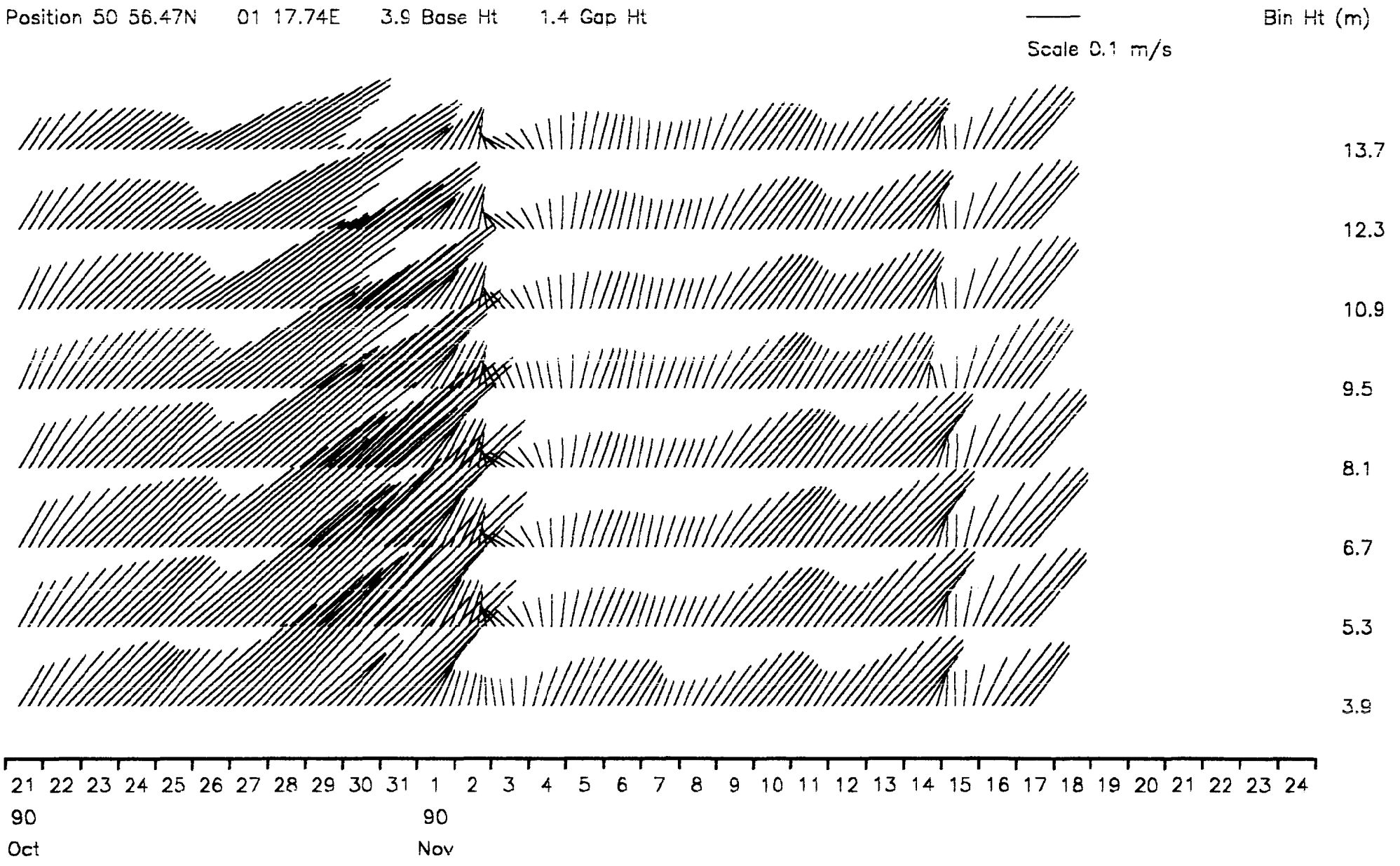


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

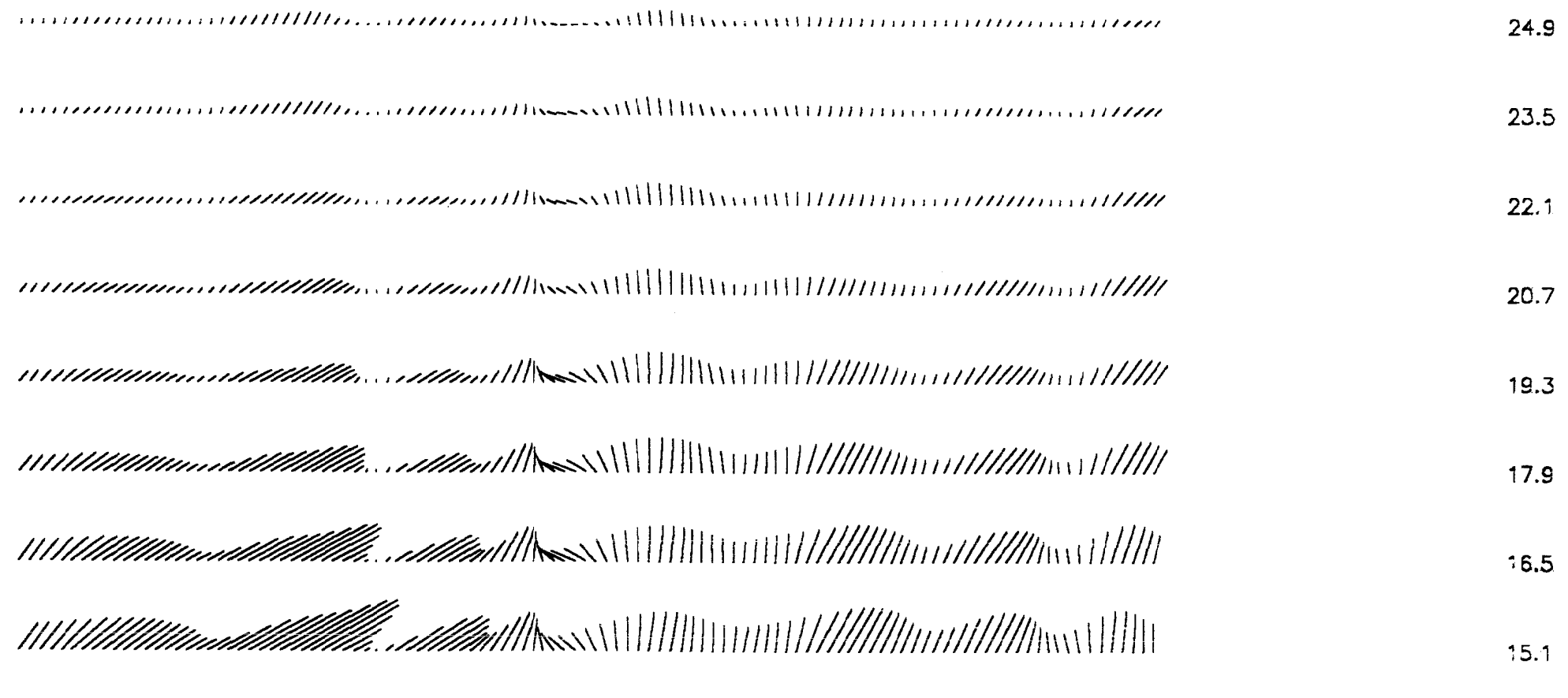


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

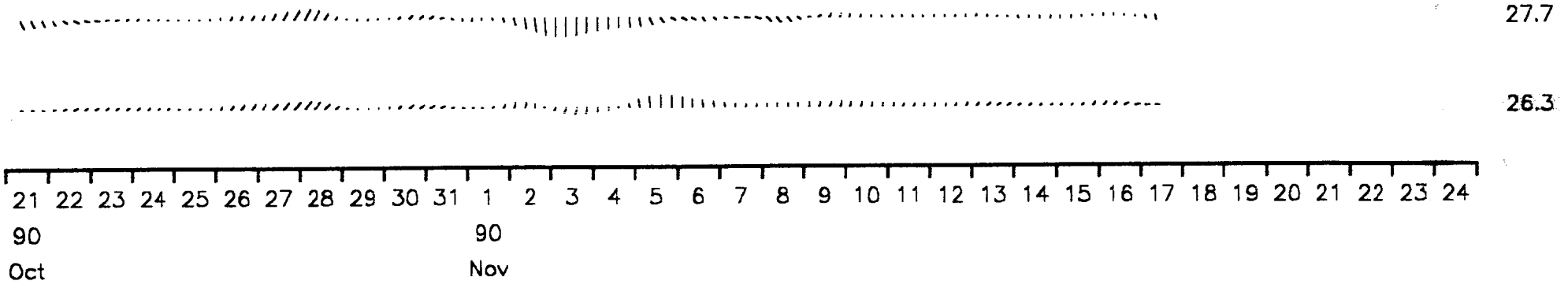
Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht

——— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0004 00454

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.138	37.8	0.1373	41.5	0.0046	131.5
2	5.3	0.150	39.2	0.1726	43.1	0.0038	133.1
3	6.7	0.148	39.5	0.1695	44.1	0.0036	134.1
4	8.1	0.139	39.6	0.1535	45.0	0.0034	135.0
5	9.5	0.122	37.6	0.1192	42.7	0.0046	132.7
6	10.9	0.117	38.8	0.1200	44.1	0.0039	134.1
7	12.3	0.104	39.4	0.1051	45.0	0.0034	135.0
8	13.7	0.088	39.1	0.0834	45.1	0.0030	135.1
9	15.1	0.057	33.5	0.0452	40.3	0.0031	130.3
10	16.5	0.047	33.5	0.0356	40.0	0.0021	130.0
11	17.9	0.037	32.2	0.0241	38.6	0.0017	128.6
12	19.3	0.028	29.9	0.0151	36.4	0.0013	126.4
13	20.7	0.021	31.2	0.0065	28.3	0.0007	118.3
14	22.1	0.015	25.6	0.0041	25.0	0.0004	115.0
15	23.5	0.012	18.3	0.0022	23.3	0.0002	113.3
16	24.9	0.010	17.3	0.0012	20.1	0.0001	110.1
17	26.3	0.005	42.0	0.0008	13.2	0.0001	103.2
18	27.7	0.004	140.8	0.0012	-1.1	0.0001	88.9

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.147	39.4	0.0102	50.6	0.0001	140.6
2	5.3	0.159	40.7	0.0142	53.1	0.0001	143.1
3	6.7	0.156	41.2	0.0133	54.5	0.0001	144.5
4	8.1	0.146	41.4	0.0111	56.9	0.0001	146.9
5	9.5	0.128	39.7	0.0090	59.4	0.0001	149.4
6	10.9	0.121	40.8	0.0072	61.8	0.0002	151.8
7	12.3	0.106	41.1	0.0050	65.3	0.0002	155.3
8	13.7	0.089	40.3	0.0032	68.9	0.0002	158.9
9	15.1	0.058	35.1	0.0015	77.9	0.0002	167.9
10	16.5	0.047	33.7	0.0009	81.1	0.0002	171.1
11	17.9	0.037	31.4	0.0005	85.4	0.0002	175.4
12	19.3	0.028	28.1	0.0003	-89.4	0.0001	0.6
13	20.7	0.021	28.8	0.0001	89.0	0.0001	179.0
14	22.1	0.015	22.1	0.0001	-85.7	0.0000	4.3
15	23.5	0.012	15.3	0.0000	73.4	0.0000	163.4
16	24.9	0.010	15.1	0.0000	38.7	0.0000	128.7
17	26.3	0.005	36.3	0.0000	9.9	0.0000	99.9
18	27.7	0.004	135.0	0.0001	5.0	0.0000	95.0

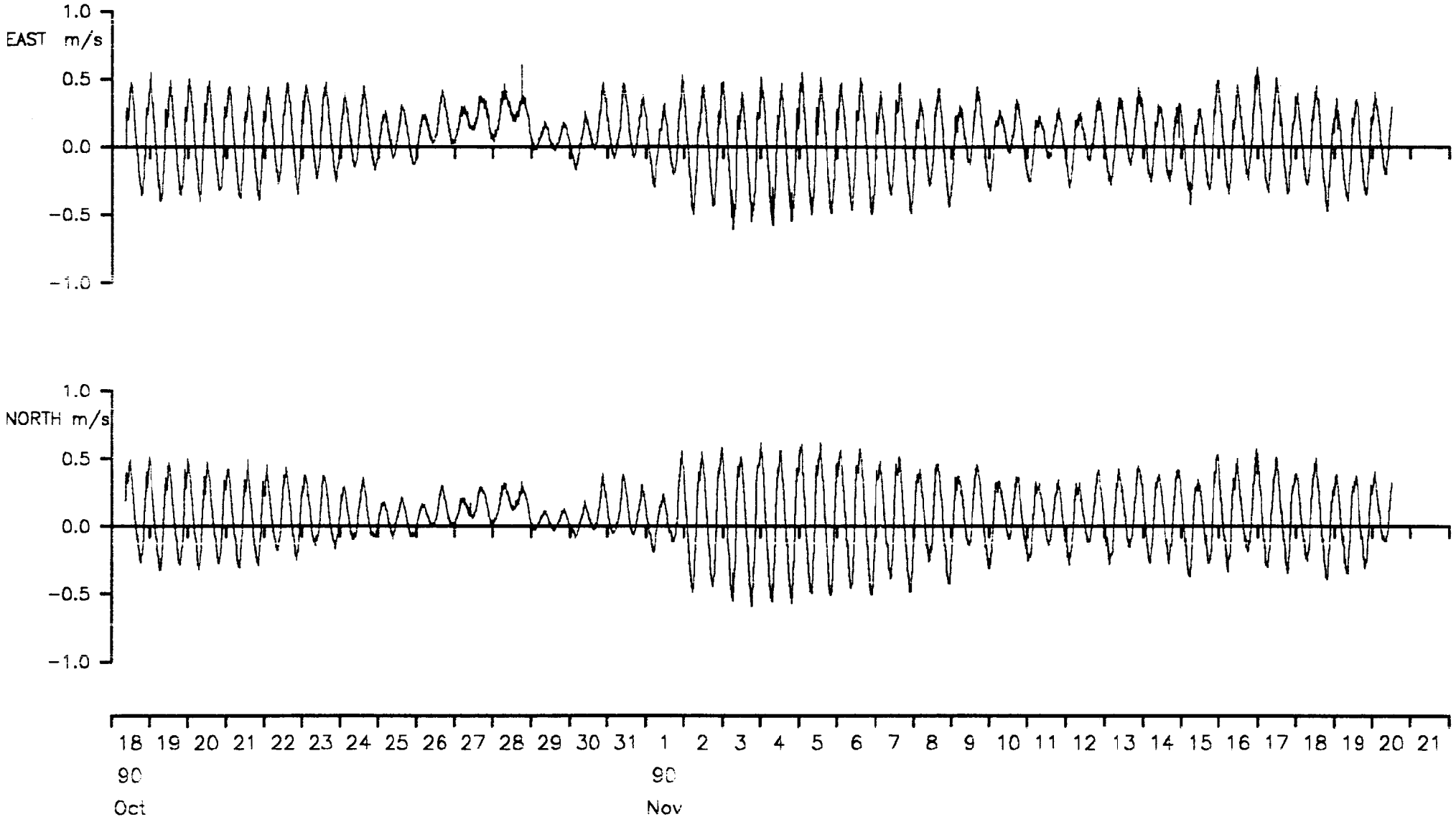
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



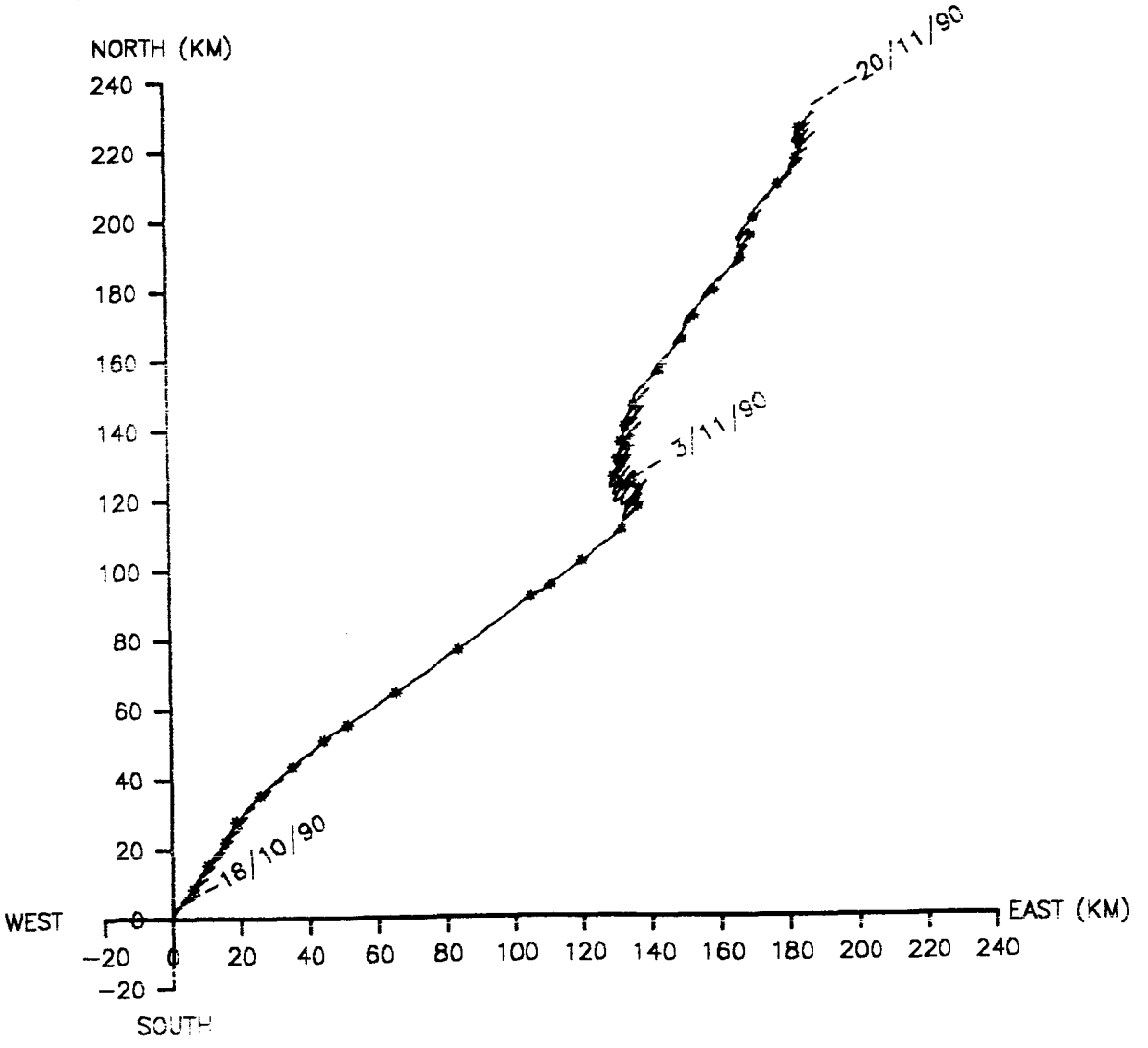
VECTOR PLOT

Meter no. 0004 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 004547 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0661	0.54157566E-01	0.23271769E+00
Northings	0.0804	0.54297630E-01	0.23301846E+00
Speed	0.2948	0.32358740E-01	0.17988539E+00

Vector mean speed 0.1040
Vector Mean Direction 39.4

Maximum ten values

Eastings					Northings				
0.600	0.586	0.569	0.546	0.546	0.616	0.615	0.601	0.586	0.581
0.537	0.527	0.526	0.523	0.521	0.578	0.577	0.575	0.575	0.574

Minimum ten values

Eastings					Northings				
-0.541	-0.546	-0.549	-0.550	-0.563	-0.527	-0.528	-0.530	-0.549	-0.550
-0.571	-0.574	-0.578	-0.580	-0.611	-0.551	-0.557	-0.558	-0.571	-0.592

Maximum speeds

0.808	0.799	0.799	0.797	0.797	0.797	0.793	0.784	0.783	0.782
0.781	0.771	0.771	0.769	0.768	0.766	0.763	0.761	0.758	0.756
0.750	0.748	0.748	0.748	0.748	0.747	0.747	0.739	0.737	0.736
0.734	0.734	0.732	0.728	0.723	0.722	0.720	0.715	0.713	0.713
0.712	0.712	0.711	0.710	0.709	0.709	0.708	0.708	0.708	0.707
0.706	0.706	0.706	0.705	0.705	0.705	0.704	0.704	0.703	0.701
0.701	0.701	0.700	0.700	0.700	0.698	0.697	0.697	0.696	0.696
0.696	0.695	0.695	0.694	0.694	0.694	0.693	0.693	0.692	0.692
0.692	0.691	0.690	0.690	0.689	0.689	0.688	0.687	0.687	0.687
0.686	0.685	0.684	0.684	0.684	0.684	0.684	0.683	0.683	0.683

Variance ellipse statistics

Maximum variance 0.1051E+00 Direction 45.0

Minimum variance 0.3394E-02 Direction 135.0

Total variance 0.1085E+00 Ratio of variances 0.3231E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 1.9

Average direction. maxdir +PI/2 to maxdir -PI/2 182.3

Statistics for DP0004 004547F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0700	0.41412935E-02	0.64352870E-01
Northings	0.0802	0.10384438E-02	0.32224894E-01
Speed	0.1125	0.38479201E-02	0.62031601E-01

Vector mean speed 0.1065
Vector Mean Direction 41.1

Maximum ten values

Eastings					Northings				
0.260	0.254	0.240	0.233	0.212	0.181	0.176	0.166	0.160	0.143
0.200	0.195	0.193	0.188	0.177	0.133	0.131	0.130	0.128	0.127

Minimum ten values

Eastings					Northings				
-0.001	-0.004	-0.006	-0.011	-0.013	0.043	0.043	0.038	0.035	0.031
-0.022	-0.028	-0.032	-0.037	-0.038	0.029	0.028	0.027	0.017	0.013

Maximum speeds

0.317	0.309	0.292	0.282	0.256	0.240	0.233	0.233	0.224	0.217
0.202	0.201	0.198	0.171	0.170	0.167	0.161	0.159	0.156	0.154
0.152	0.149	0.145	0.143	0.140	0.140	0.140	0.140	0.138	0.138
0.137	0.135	0.131	0.131	0.129	0.129	0.128	0.127	0.124	0.124
0.120	0.119	0.117	0.114	0.114	0.114	0.111	0.107	0.103	0.102
0.102	0.098	0.097	0.097	0.096	0.096	0.095	0.094	0.091	0.090
0.087	0.086	0.085	0.083	0.083	0.083	0.083	0.082	0.081	0.079
0.078	0.076	0.076	0.074	0.073	0.072	0.072	0.072	0.072	0.071
0.068	0.068	0.067	0.067	0.066	0.066	0.062	0.061	0.061	0.058
0.056	0.056	0.056	0.055	0.054	0.054	0.052	0.051	0.049	0.048

Variance ellipse statistics

Maximum variance 0.4971E-02 Direction 65.3

Minimum variance 0.2087E-03 Direction 155.3

Total variance 0.5180E-02 Ratio of variances 0.4199E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -29.6

Average direction. maxdir +PI/2 to maxdir -PI/2 250.0

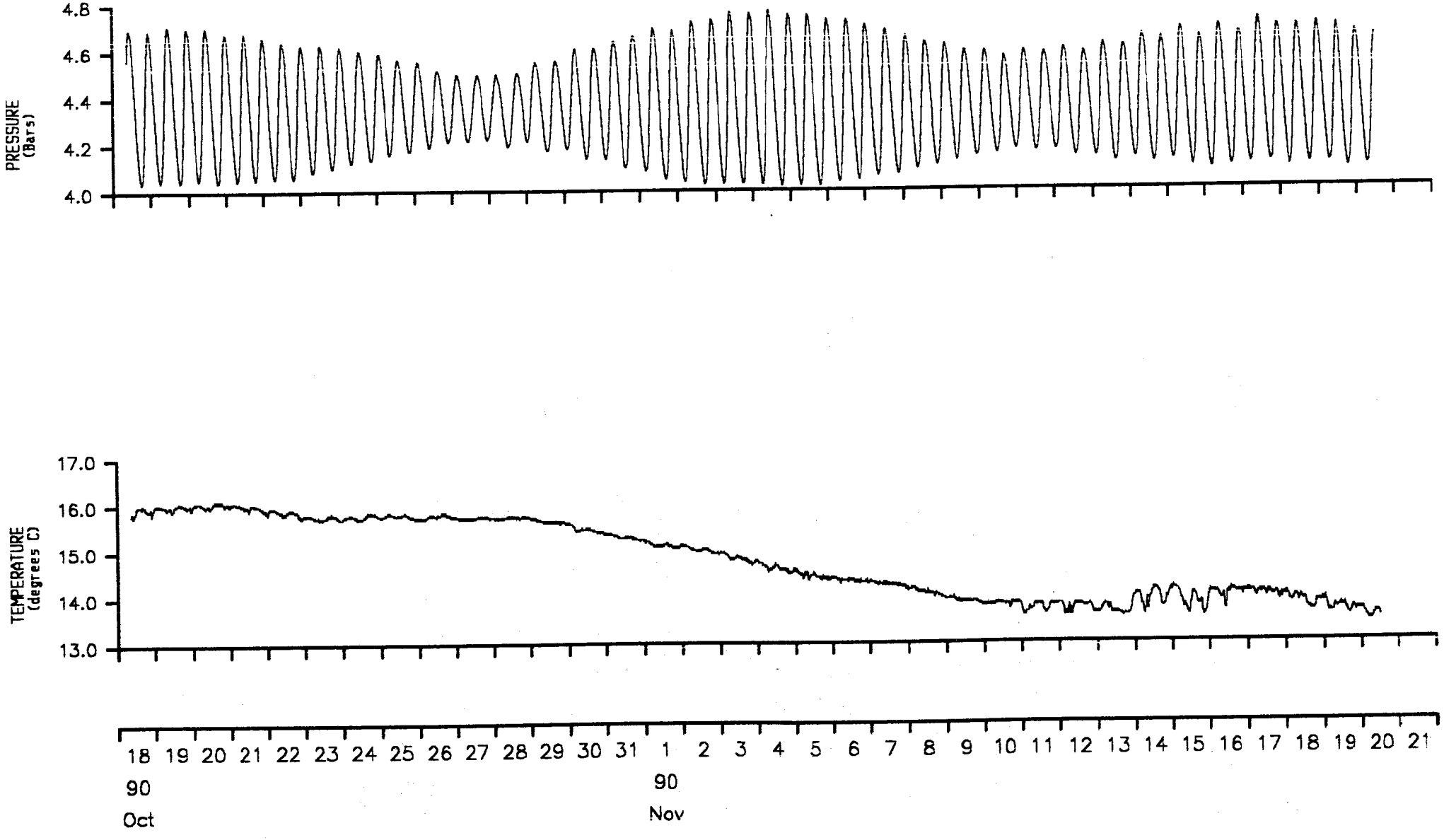
Meter information details for 0915

Rig No	:	00454
Meter No	:	0915
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	16-OCT-90 18:40:40
Meter stopped	:	23-NOV-90 11:51:00
Period switched on	:	37.7 days
Period of good data	:	33.1 days
Total number of scans	:	4772
Timing error	:	20 seconds slow
Comments	:	Good record obtained

Meter no. 0915 Rig no. 00454 Depth of water(m) 30.0

Start/End 1990/10/18 AT 09:00:00 1990/11/20 AT 12:15:00

Position 50 56.47N 01 17.74E Meter Height(m) 0.5



Rig information details for 00456

Position Latitude	:	50 56.59N
Position Longitude	:	01 16.40E
Water depth	:	30.0 m
Deployed on cruise	:	H.A.M
Recovered on cruise	:	UNKNOWN
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	20-NOV-90 13:20:00
Rig recovered on	:	18-DEC-90 11:15:00
Period of deployment	:	27.9 days
Comments	:	Launch and recovery successful

Meter information details for 0010

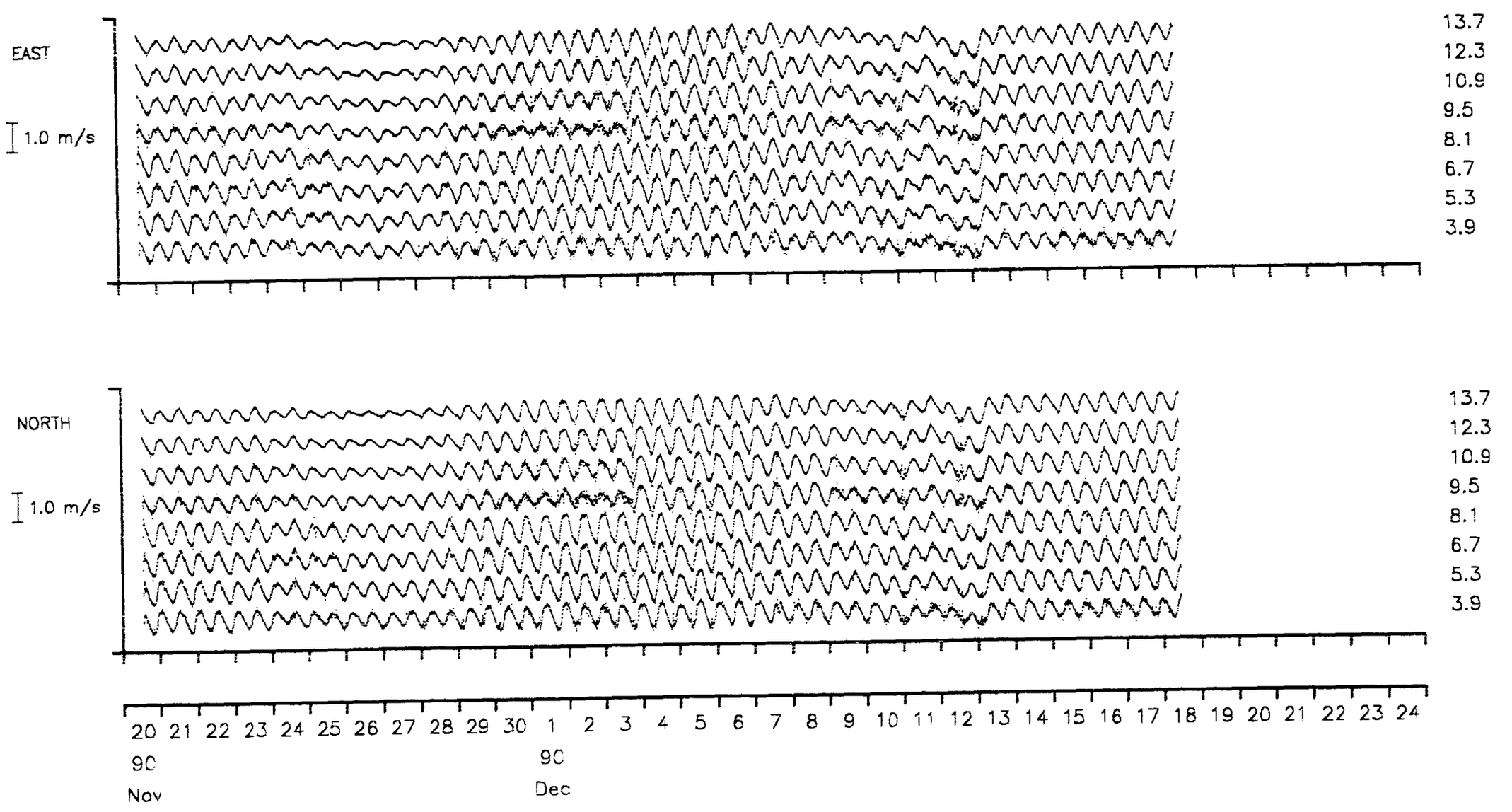
Rig No	:	00456
Meter No	:	0010
Frame angle correction	:	195.3 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	20-NOV-90 13:19:05
Meter stopped	:	18-DEC-90 13:08:50
Period switched on	:	28.0 days
Period of good data	:	27.9 days
Total number of scans	:	4019
Timing error	:	15 seconds fast
Comments	:	Good record obtained
		Channel 1 recording Beam 2 and vice versa

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

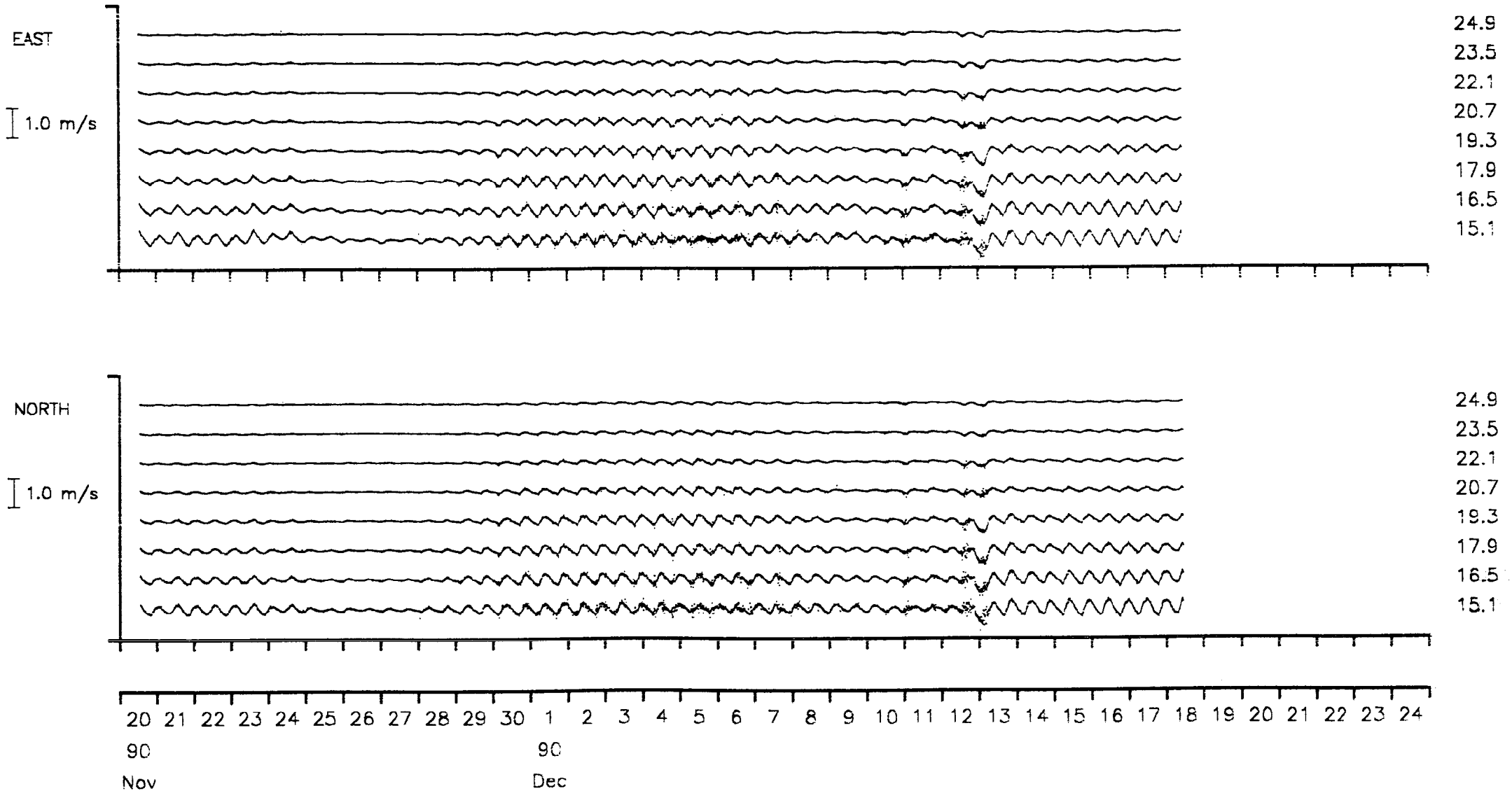


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht



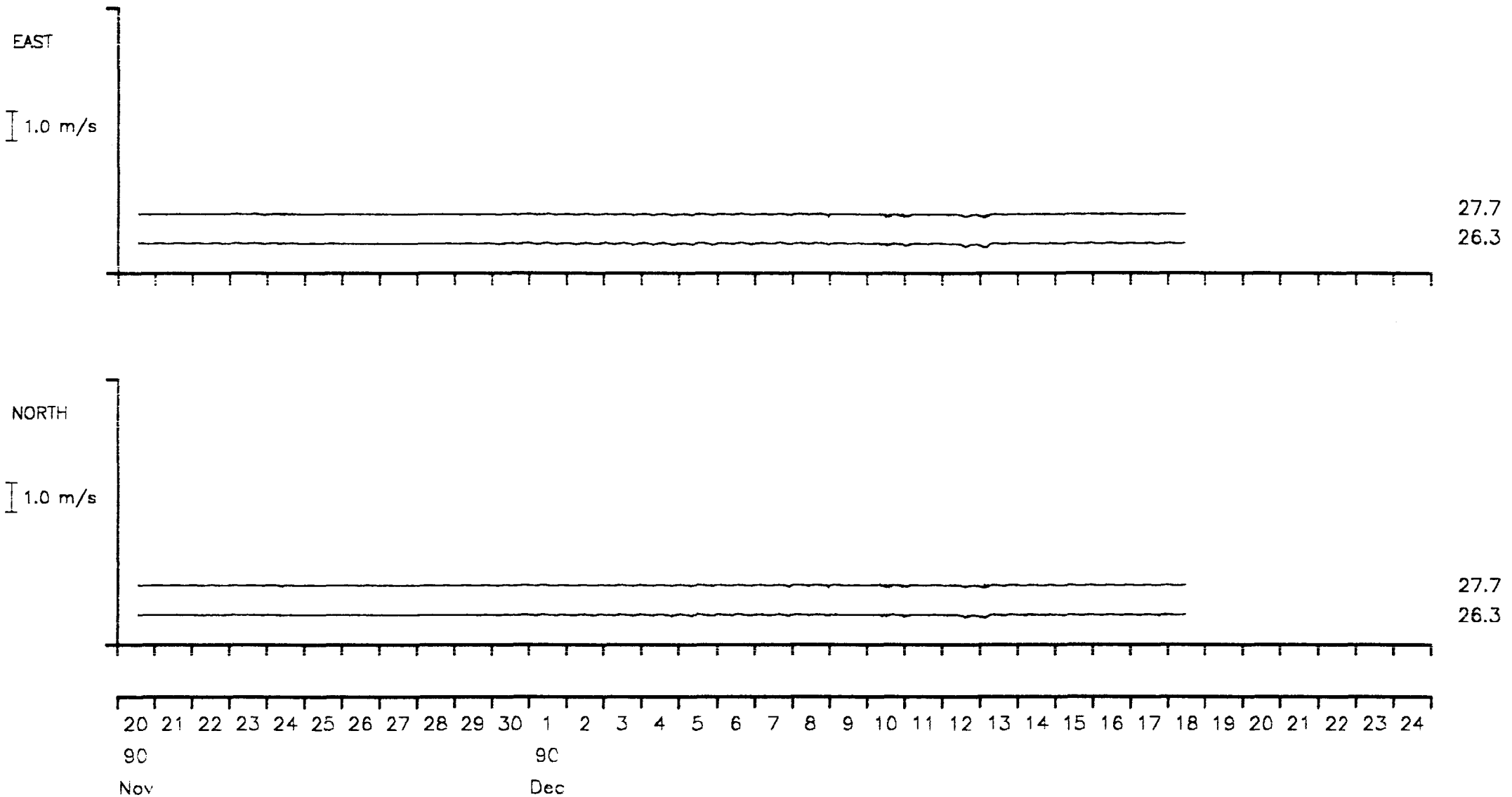
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

Bin Ht (m)

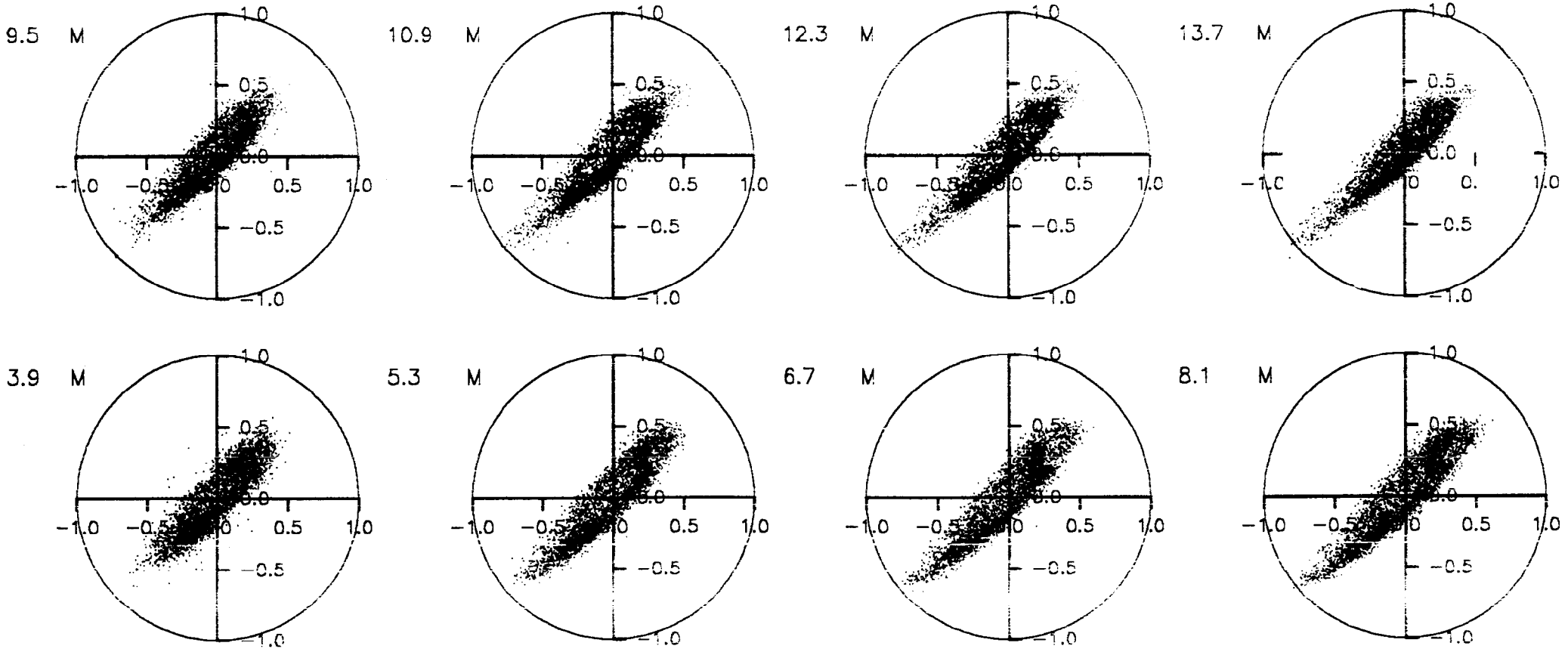


SCATTER PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

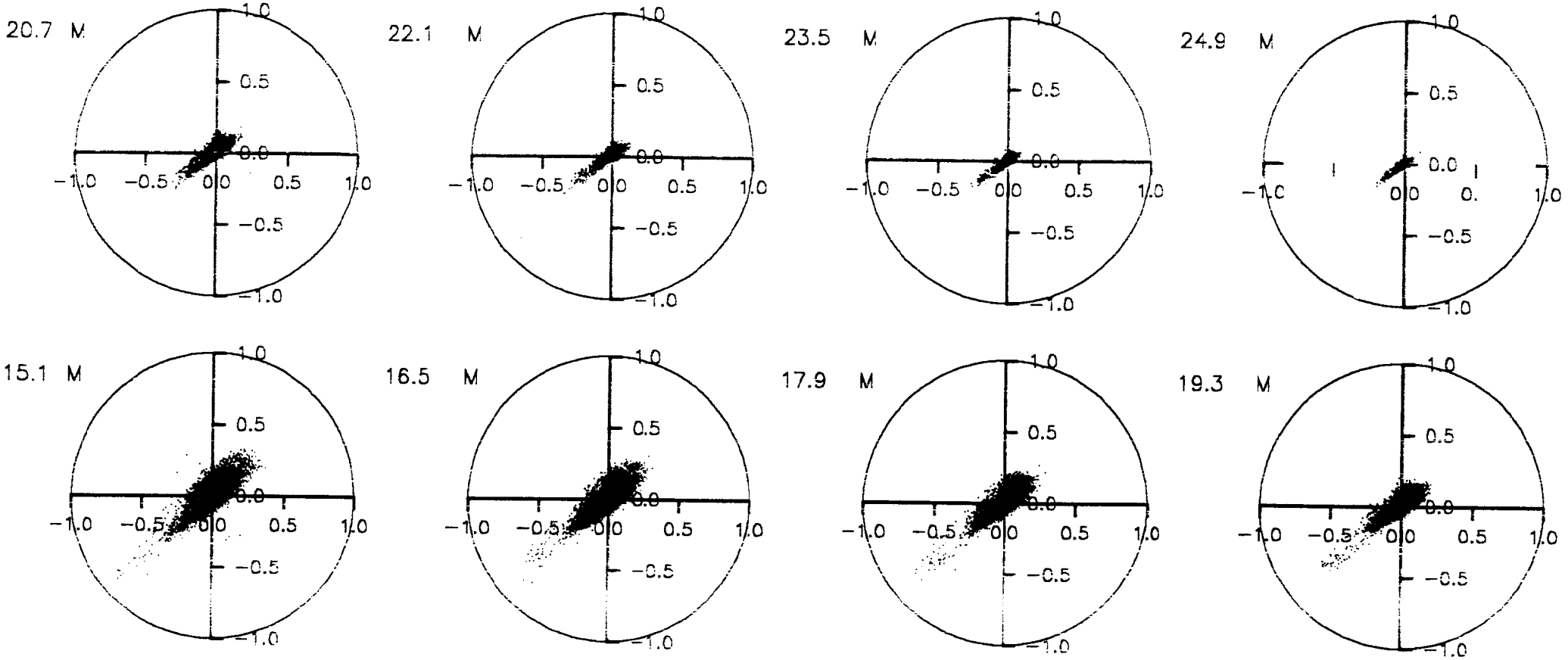


SCATTER PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

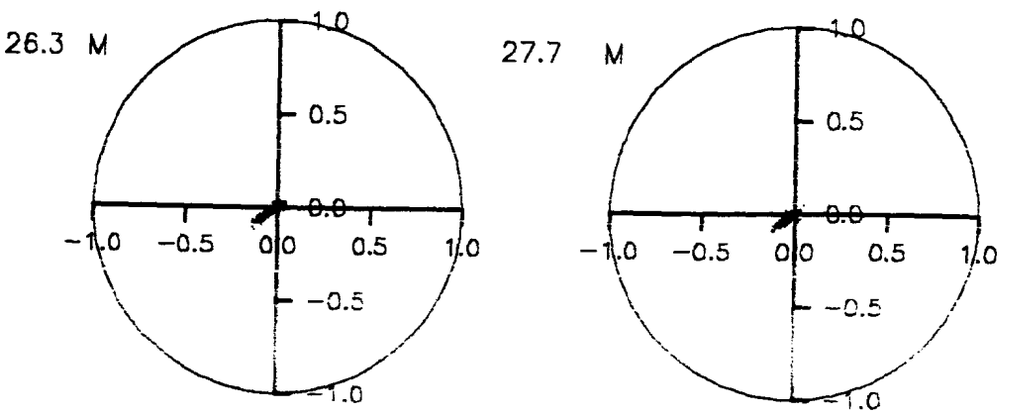


SCATTER PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

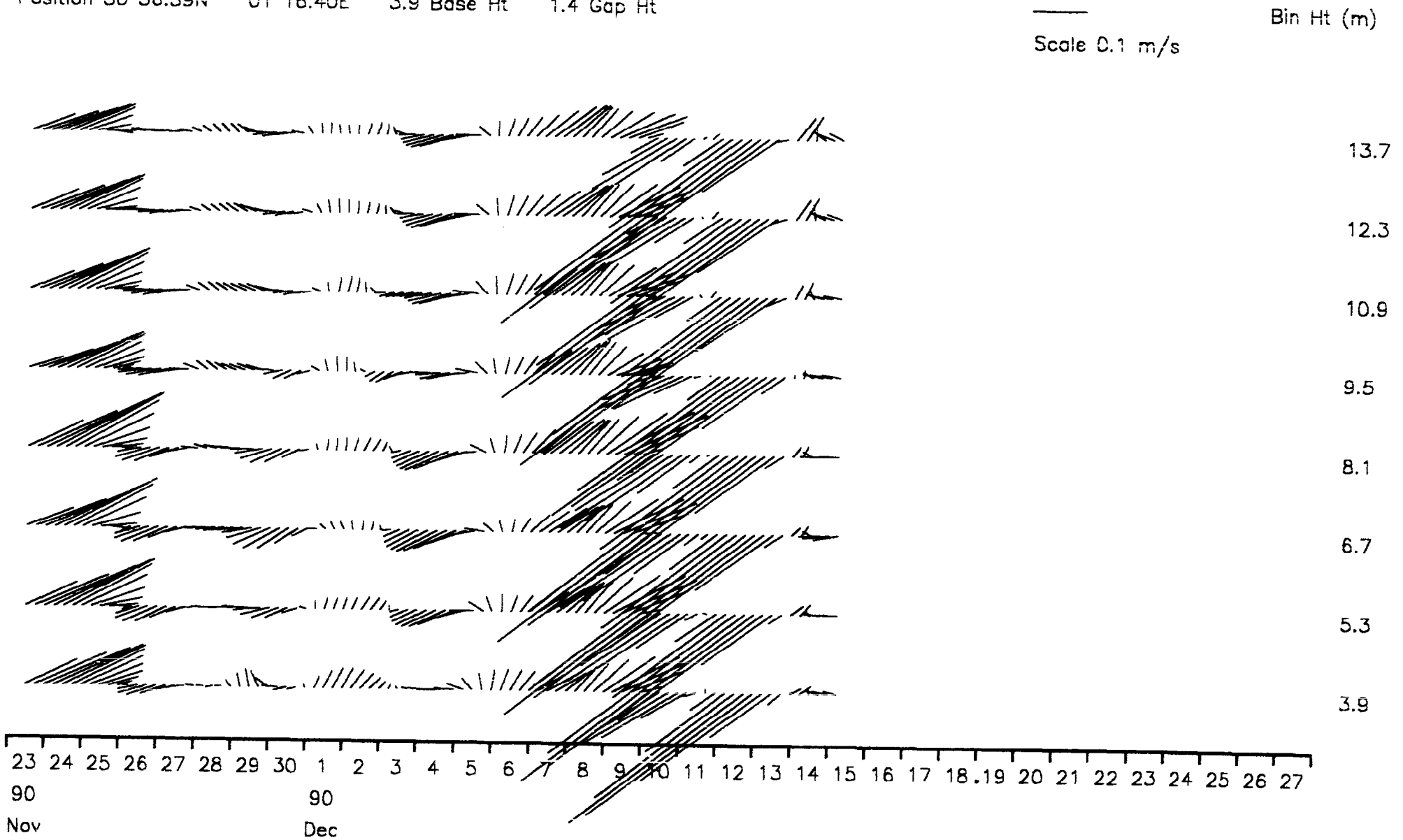


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

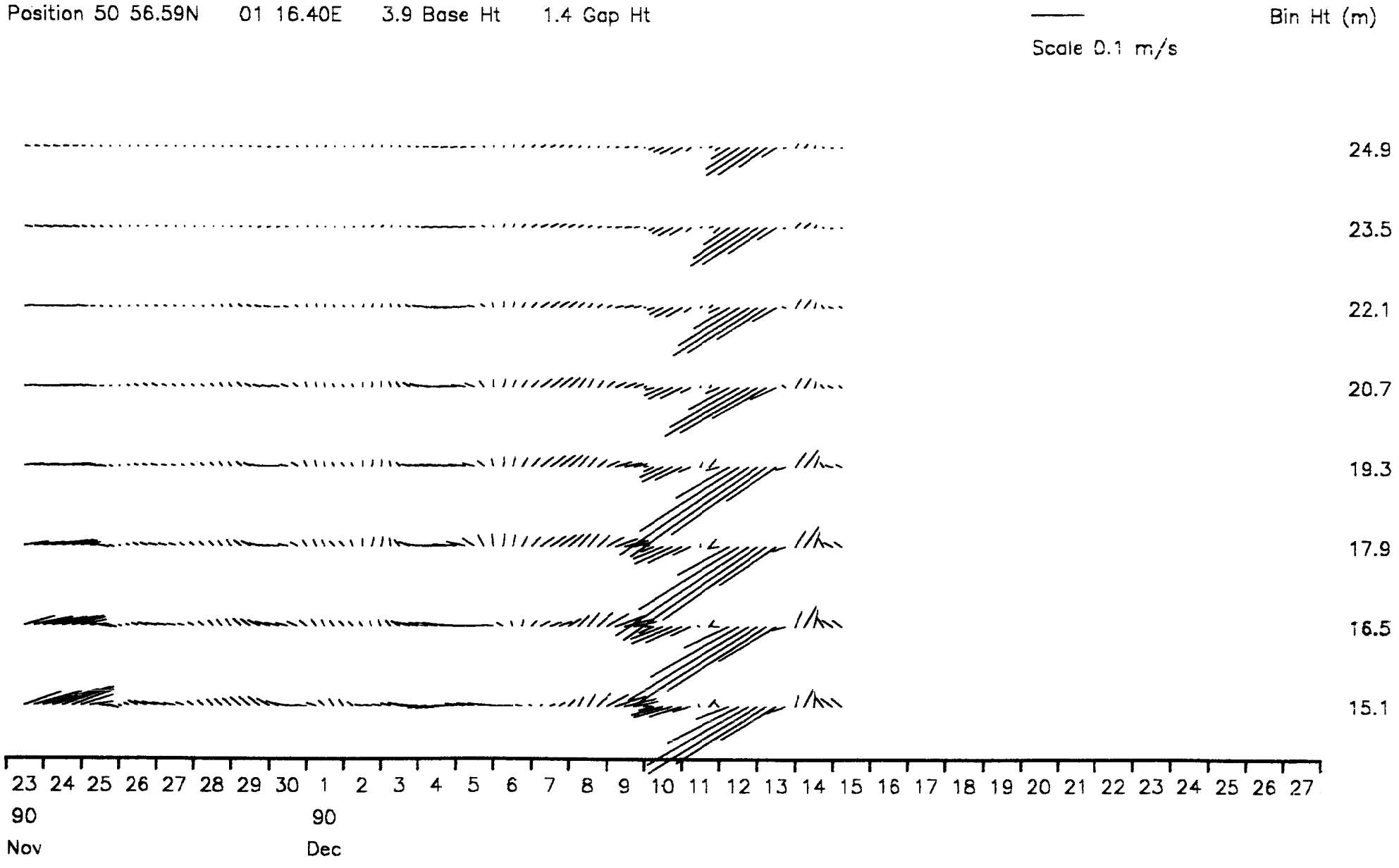


STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht



STICK TIME SERIES PLOT

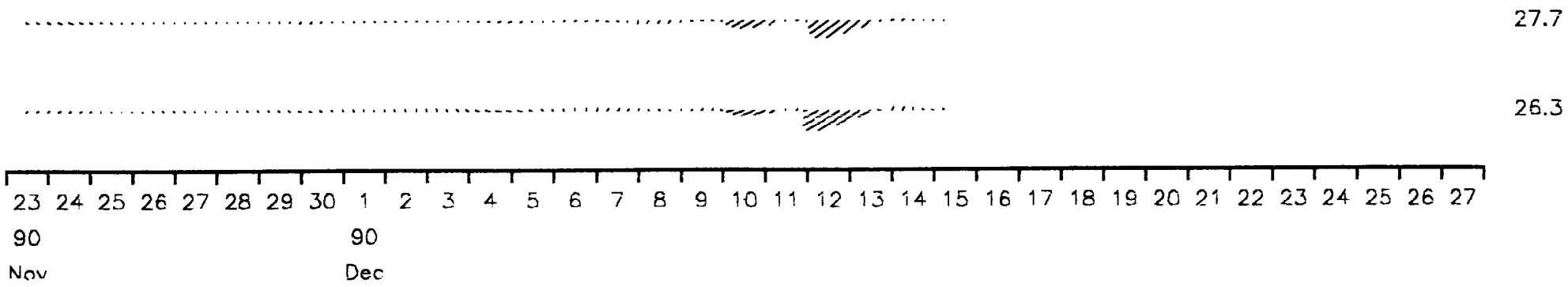
Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

—— Bin Ht (m)

Scale 0.1 m/s



STATISTICS FOR DP0010 00456

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.005	4.9	0.0935	42.3	0.0057	132.3
2	5.3	0.012	-110.4	0.1276	42.6	0.0052	132.6
3	6.7	0.025	-119.5	0.1357	43.0	0.0054	133.0
4	8.1	0.014	-102.7	0.1490	43.7	0.0055	133.7
5	9.5	0.015	-93.0	0.0883	43.8	0.0052	133.8
6	10.9	0.014	-85.9	0.1053	44.4	0.0053	134.4
7	12.3	0.013	-85.7	0.1074	45.0	0.0050	135.0
8	13.7	0.014	-90.9	0.0925	45.7	0.0045	135.7
9	15.1	0.008	-59.0	0.0280	46.4	0.0031	136.4
10	16.5	0.008	-72.2	0.0249	47.4	0.0025	137.4
11	17.9	0.008	-78.9	0.0199	48.7	0.0018	138.7
12	19.3	0.008	-91.8	0.0134	50.1	0.0012	140.1
13	20.7	0.006	-79.1	0.0056	52.1	0.0006	142.1
14	22.1	0.005	-99.2	0.0034	53.3	0.0003	143.3
15	23.5	0.004	-127.6	0.0018	54.2	0.0002	144.2
16	24.9	0.003	-108.1	0.0009	54.1	0.0001	144.1
17	26.3	0.004	-87.6	0.0004	54.7	0.0000	144.7
18	27.7	0.003	-151.2	0.0003	54.7	0.0000	144.7

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.004	-59.7	0.0114	56.8	0.0003	146.8
2	5.3	0.019	-115.3	0.0168	56.0	0.0003	146.0
3	6.7	0.031	-119.7	0.0186	55.9	0.0003	145.9
4	8.1	0.021	-111.3	0.0207	55.5	0.0003	145.5
5	9.5	0.019	-99.1	0.0118	57.3	0.0003	147.3
6	10.9	0.020	-97.8	0.0157	56.2	0.0003	146.2
7	12.3	0.020	-100.9	0.0173	55.9	0.0003	145.9
8	13.7	0.021	-104.0	0.0166	55.2	0.0003	145.2
9	15.1	0.012	-84.5	0.0033	64.2	0.0001	154.2
10	16.5	0.013	-91.4	0.0038	61.8	0.0002	151.8
11	17.9	0.013	-92.8	0.0043	57.7	0.0002	147.7
12	19.3	0.012	-100.8	0.0037	56.7	0.0001	146.7
13	20.7	0.009	-89.1	0.0014	60.3	0.0000	150.3
14	22.1	0.008	-104.8	0.0011	58.1	0.0000	148.1
15	23.5	0.006	-125.1	0.0007	57.8	0.0000	147.8
16	24.9	0.005	-111.3	0.0003	56.9	0.0000	146.9
17	26.3	0.005	-93.0	0.0002	56.4	0.0000	146.4
18	27.7	0.004	-145.4	0.0001	57.7	0.0000	147.7

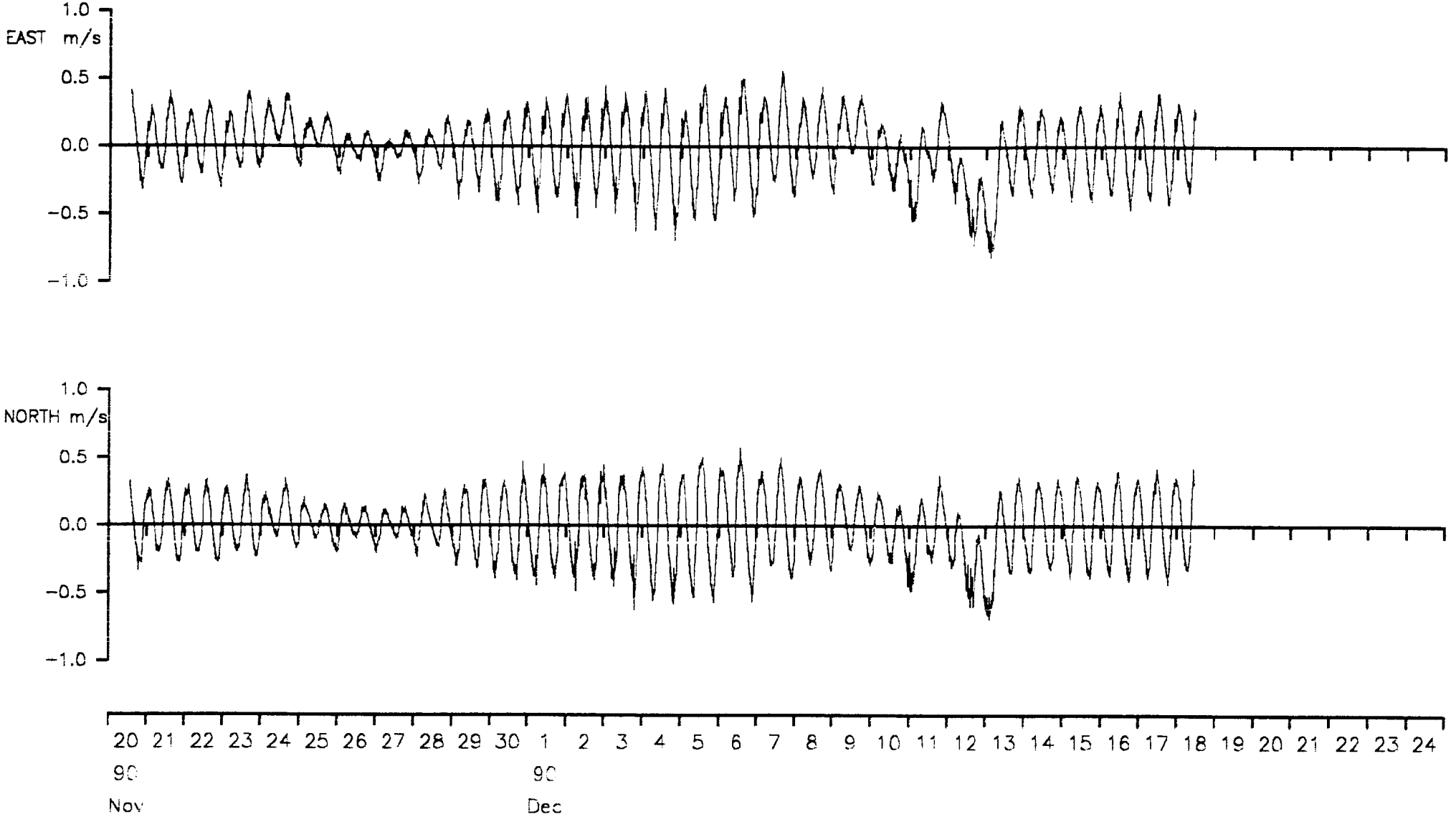
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



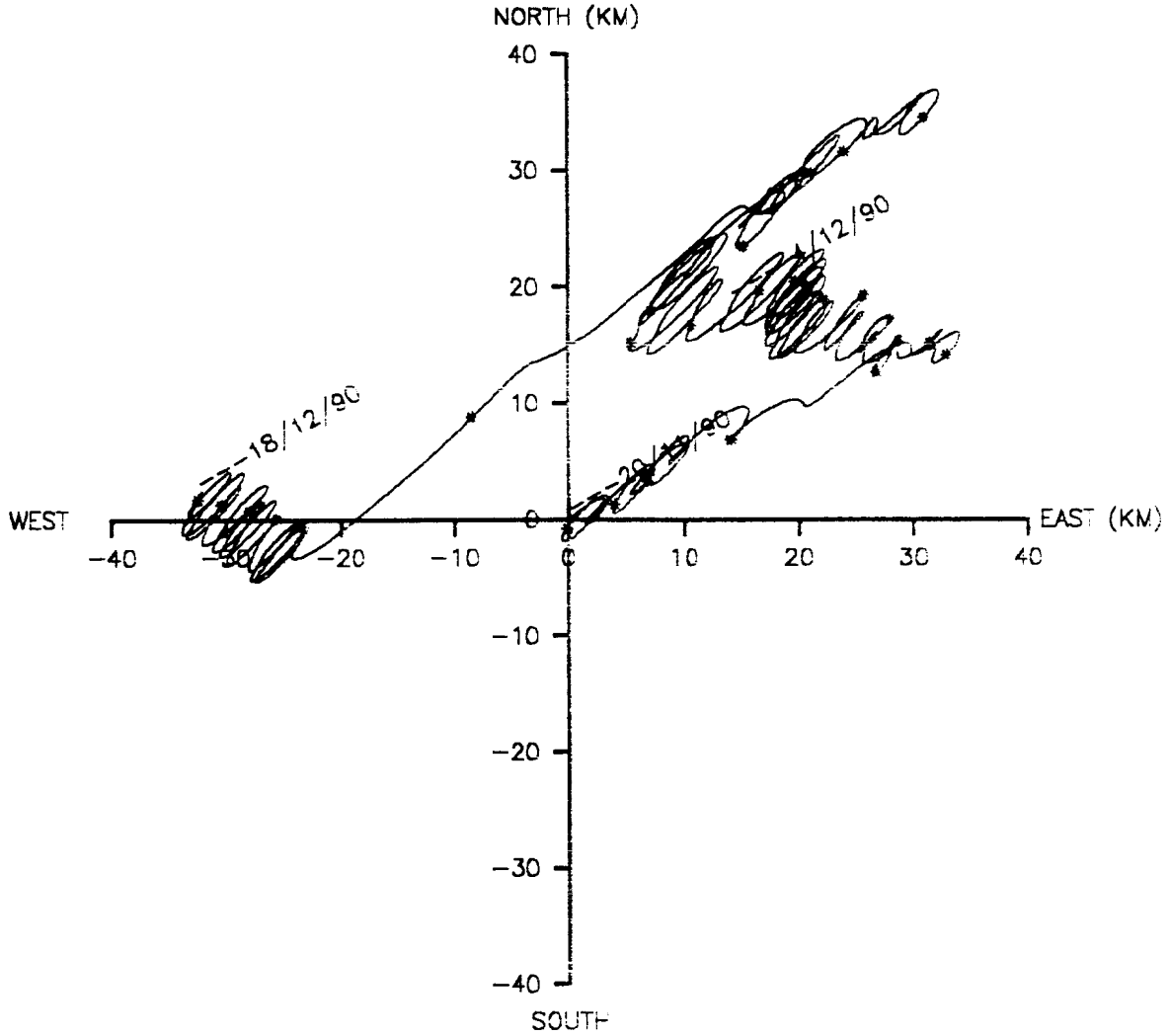
VECTOR PLOT

Meter no. 0010 Rig no. 00456 Depth of water(m) 30.0

Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00

Position 50 56.59N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004567 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	-0.0133	0.56251194E-01	0.23717326E+00
Northings	0.0010	0.56110278E-01	0.23687601E+00
Speed	0.2885	0.29299241E-01	0.17117018E+00

Vector mean speed 0.0134
Vector Mean Direction -85.7

Maximum ten values

Eastings					Northings				
0.553	0.538	0.533	0.526	0.515	0.575	0.519	0.507	0.506	0.503
0.503	0.503	0.495	0.494	0.493	0.491	0.485	0.485	0.485	0.481

Minimum ten values

Eastings					Northings				
-0.737	-0.738	-0.746	-0.746	-0.751	-0.614	-0.620	-0.626	-0.627	-0.633
-0.763	-0.768	-0.770	-0.780	-0.819	-0.634	-0.641	-0.648	-0.661	-0.687

Maximum speeds

1.036	1.031	1.015	0.984	0.977	0.977	0.953	0.947	0.933	0.930
0.929	0.926	0.925	0.919	0.917	0.915	0.913	0.912	0.905	0.904
0.903	0.899	0.889	0.889	0.887	0.885	0.885	0.876	0.860	0.853
0.846	0.844	0.844	0.844	0.843	0.837	0.833	0.828	0.824	0.819
0.813	0.812	0.809	0.809	0.801	0.800	0.799	0.795	0.791	0.786
0.782	0.782	0.777	0.777	0.776	0.771	0.771	0.768	0.765	0.763
0.762	0.761	0.759	0.758	0.756	0.753	0.751	0.748	0.747	0.746
0.745	0.743	0.743	0.740	0.735	0.734	0.733	0.733	0.733	0.732
0.732	0.732	0.727	0.725	0.724	0.724	0.722	0.722	0.721	0.717
0.716	0.715	0.714	0.712	0.710	0.710	0.710	0.707	0.703	0.702

Variance ellipse statistics

Maximum variance 0.1074E+00 Direction 45.0

Minimum variance 0.4981E-02 Direction 135.0

Total variance 0.1124E+00 Ratio of variances 0.4639E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -0.8

Average direction. maxdir +PI/2 to maxdir -PI/2 179.4

Statistics for DP0010 004567F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	-0.0199	0.11936944E-01	0.10925633E+00
Northings	-0.0039	0.56543052E-02	0.75195074E-01
Speed	0.0827	0.11086423E-01	0.10529208E+00

Vector mean speed 0.0203
Vector Mean Direction -100.9

Maximum ten values

Eastings					Northings				
0.151	0.144	0.141	0.121	0.120	0.066	0.064	0.061	0.061	0.060
0.119	0.114	0.097	0.094	0.088	0.059	0.059	0.059	0.058	0.058

Minimum ten values

Eastings					Northings				
-0.078	-0.136	-0.149	-0.151	-0.175	-0.048	-0.077	-0.093	-0.102	-0.103
-0.228	-0.309	-0.387	-0.436	-0.470	-0.163	-0.223	-0.283	-0.321	-0.346

Maximum speeds

0.584	0.542	0.480	0.381	0.281	0.203	0.183	0.176	0.164	0.156
0.156	0.154	0.134	0.131	0.128	0.127	0.107	0.106	0.102	0.101
0.097	0.094	0.094	0.089	0.087	0.087	0.082	0.081	0.081	0.080
0.079	0.079	0.071	0.069	0.064	0.062	0.058	0.057	0.048	0.048
0.048	0.047	0.045	0.045	0.044	0.043	0.042	0.041	0.041	0.038
0.038	0.038	0.036	0.036	0.036	0.034	0.033	0.032	0.032	0.032
0.031	0.031	0.031	0.030	0.029	0.028	0.028	0.027	0.025	0.024
0.023	0.022	0.022	0.021	0.021	0.020	0.020	0.019	0.019	0.018
0.017	0.017	0.016	0.014	0.014	0.013	0.012	0.003		

Variance ellipse statistics

Maximum variance 0.1729E-01 Direction 55.9

Minimum variance 0.3003E-03 Direction 145.9

Total variance 0.1759E-01 Ratio of variances 0.1737E-01

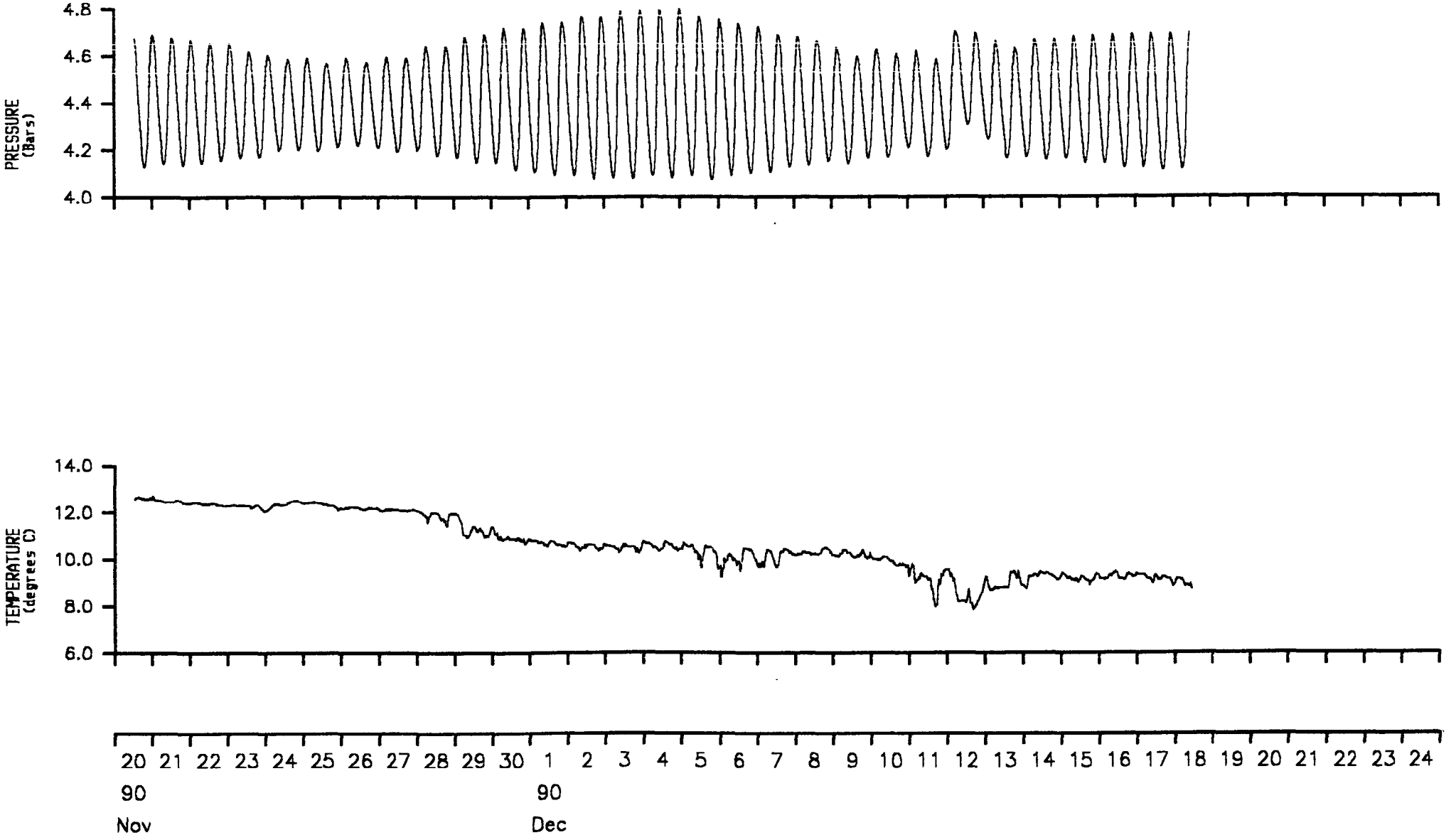
Average direction. maxdir -PI/2 to maxdir +PI/2 -15.1

Average direction. maxdir +PI/2 to maxdir -PI/2 211.6

Meter information details for 1038

Rig No	:	00456
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	18-NOV-90 13:20:40
Meter stopped	:	20-DEC-90 10:31:00
Period switched on	:	31.9 days
Period of good data	:	27.9 days
Total number of scans	:	4020
Timing error	:	20 seconds slow
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00456 Depth of water(m) 30.0
Start/End 1990/11/20 AT 13:20:00 1990/12/18 AT 11:15:00
Position 50 56.59N 01 16.40E Meter Height(m) 0.5



Rig information details for 00466

Position Latitude	:	50 56.59N
Position Longitude	:	01 16.40E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER08
Recovered on cruise	:	DOVER09
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	18-DEC-90 11:40:00
Rig recovered on	:	23-JAN-91 08:30:00
Period of deployment	:	35.9 days
Comments	:	Launch and recovery successful

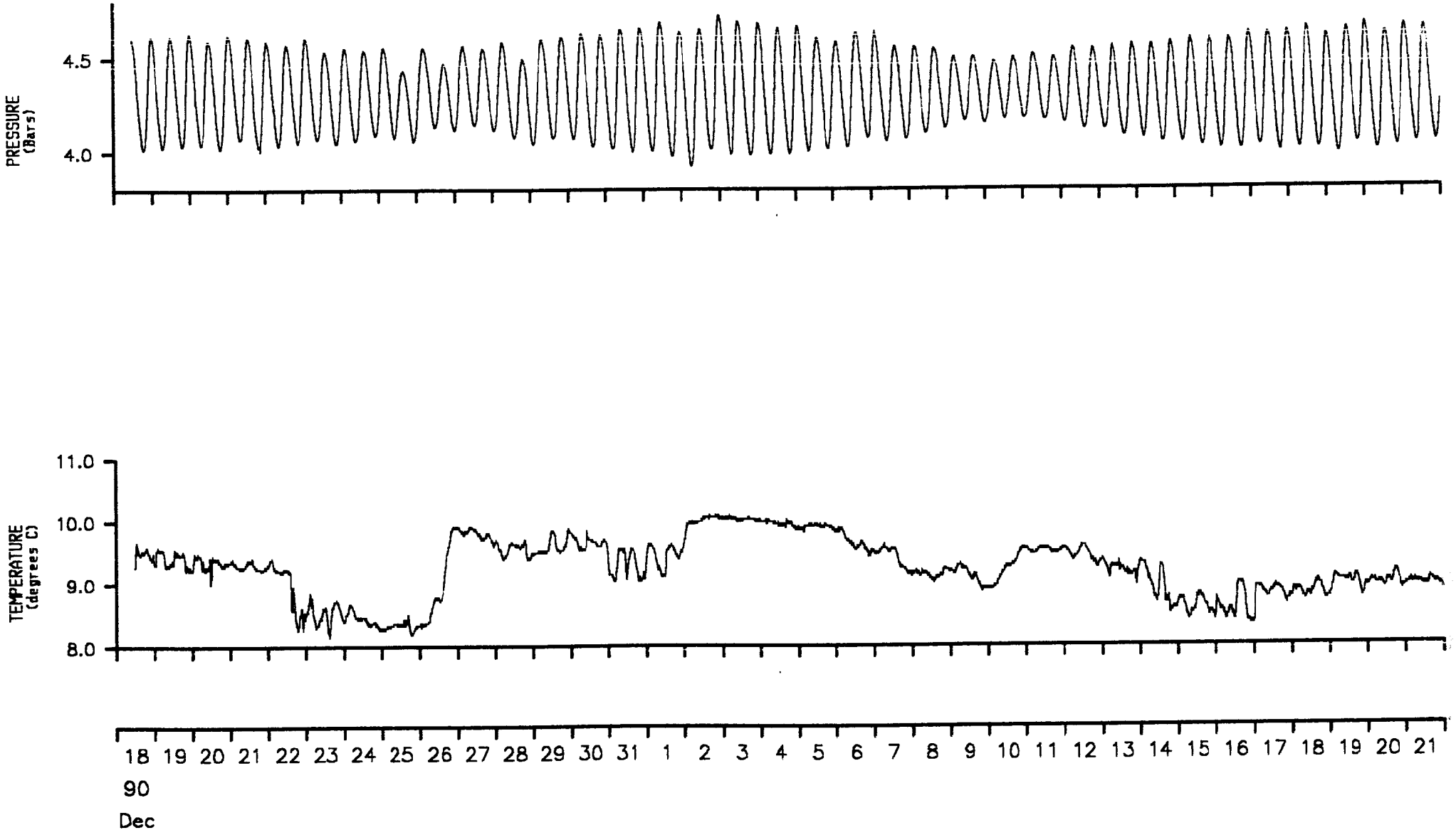
Meter information details for 0004

Rig No	:	00466
Meter No	:	0004
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

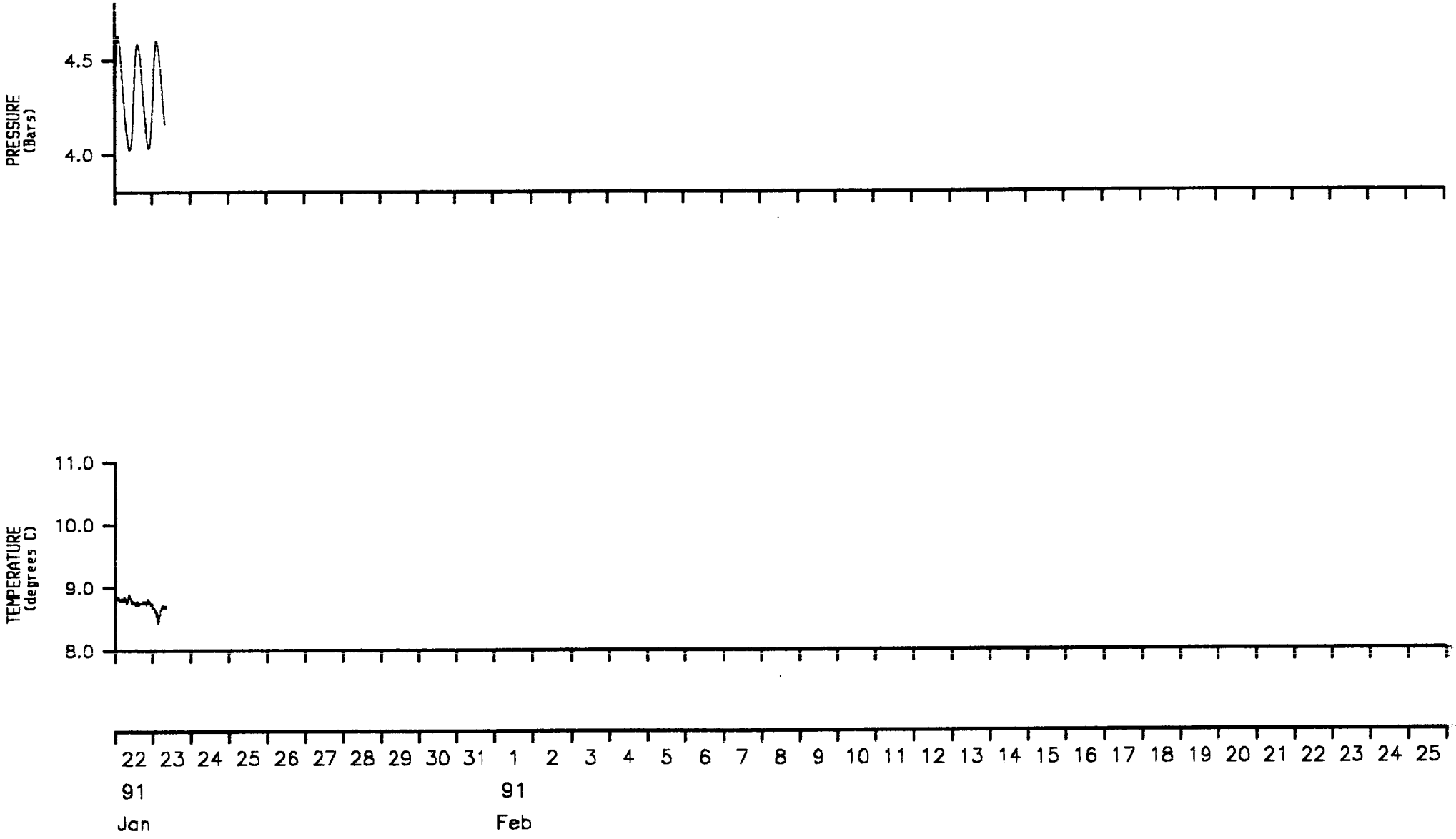
Meter information details for 0915

Rig No	:	00466
Meter No	:	0915
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	16-DEC-90 12:20:40
Meter stopped	:	24-JAN-91 16:51:05
Period switched on	:	39.2 days
Period of good data	:	35.9 days
Total number of scans	:	5165
Timing error	:	25 seconds slow
Comments	:	Good record obtained

Meter no. 0915 Rig no. 00466 Depth of water(m) 30.0
Start/End 1990/12/18 AT 11:40:00 1991/01/23 AT 08:30:00
Position 50 56.59N 01 16.40E Meter Height(m) 0.5



Meter no. 0915 Rig no. 00466 Depth of water(m) 30.0
Start/End 1990/12/18 AT 11:40:00 1991/01/23 AT 08:30:00
Position 50 56.59N 01 16.40E Meter Height(m) 0.5



Rig information details for 00468

Position Latitude	:	50 56.57N
Position Longitude	:	01 16.22E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER09
Recovered on cruise	:	DOVER10
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	23-JAN-91 09:00:00
Rig recovered on	:	25-FEB-91 09:30:00
Period of deployment	:	33.0 days
Comments	:	Launch and recovery successful

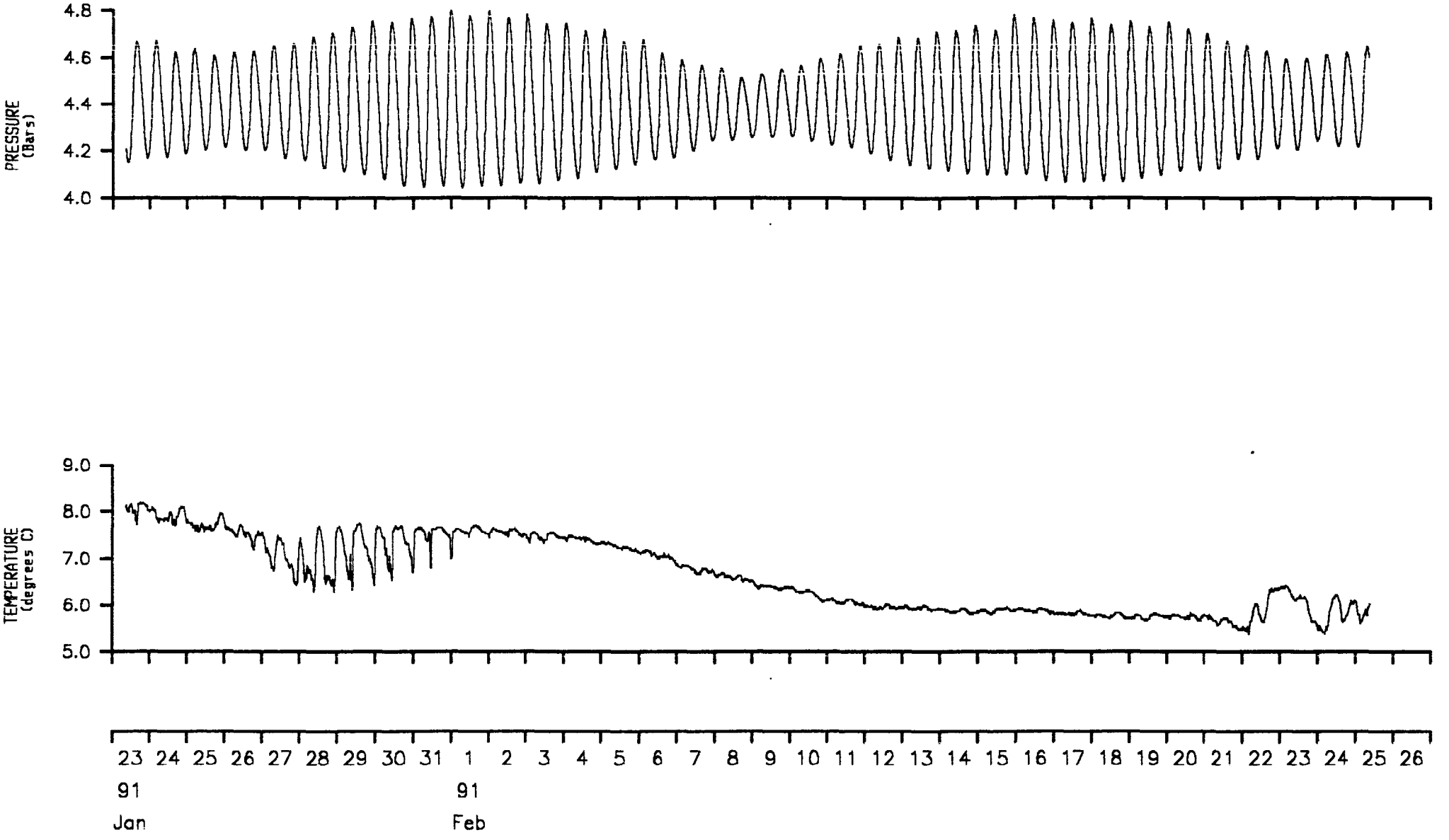
Meter information details for 0010

Rig No	:	00468
Meter No	:	0010
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

Meter information details for 1038

Rig No	:	00468
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	20-JAN-91 10:00:40
Meter stopped	:	28-FEB-91 16:01:10
Period switched on	:	39.3 days
Period of good data	:	33.0 days
Total number of scans	:	4755
Timing error	:	30 seconds slow
Comments	:	Good record obtained
		Temperature anomalies between 27-JAN-91 and 31-JAN-91

Meter no. 1038 Rig no. 00468 Depth of water(m) 30.0
Start/End 1991/01/23 AT 09:00:00 1991/02/25 AT 09:30:00
Position 50 56.57N 01 16.22E Meter Height(m) 0.5



Rig information details for 00470

Position Latitude	:	50 56.57N
Position Longitude	:	01 16.29E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER10
Recovered on cruise	:	DOVER11
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	25-FEB-91 10:20:00
Rig recovered on	:	10-APR-91 09:15:00
Period of deployment	:	44.0 days
Comments	:	Launch and recovery successful

Meter information details for 0004

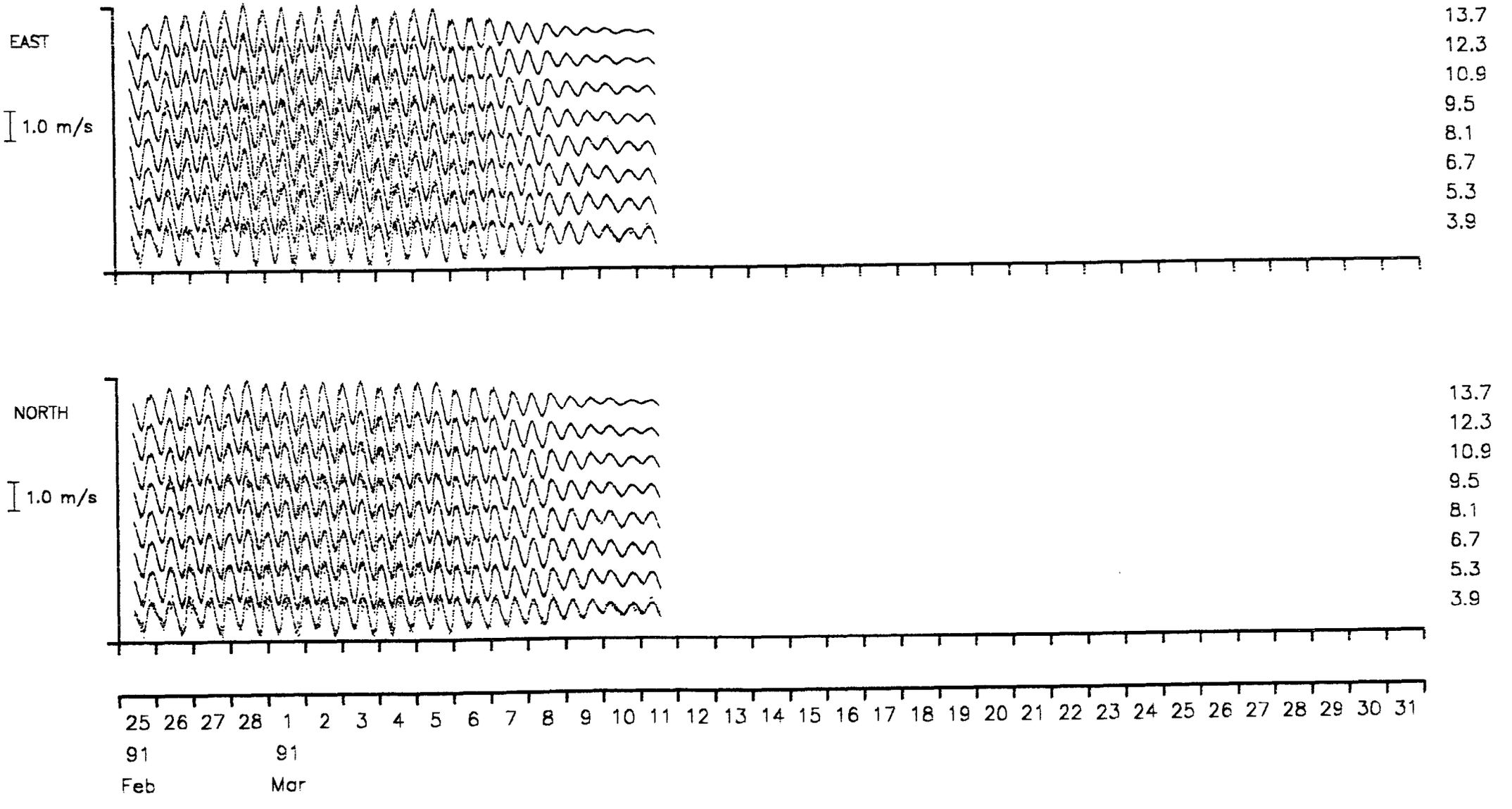
Rig No	:	00470
Meter No	:	0004
Frame angle correction	:	200.5 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	24-FEB-91 17:09:34
Time of last valid scan	:	11-MAR-91 12:59:30
Period of good data	:	14.1 days short record
Total number of scans	:	2031
Timing error	:	4 seconds fast
Comments	:	Timing malfunction after 11-MAR-91 with gaps
		One increment of 20 minutes instead of 10 minutes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht

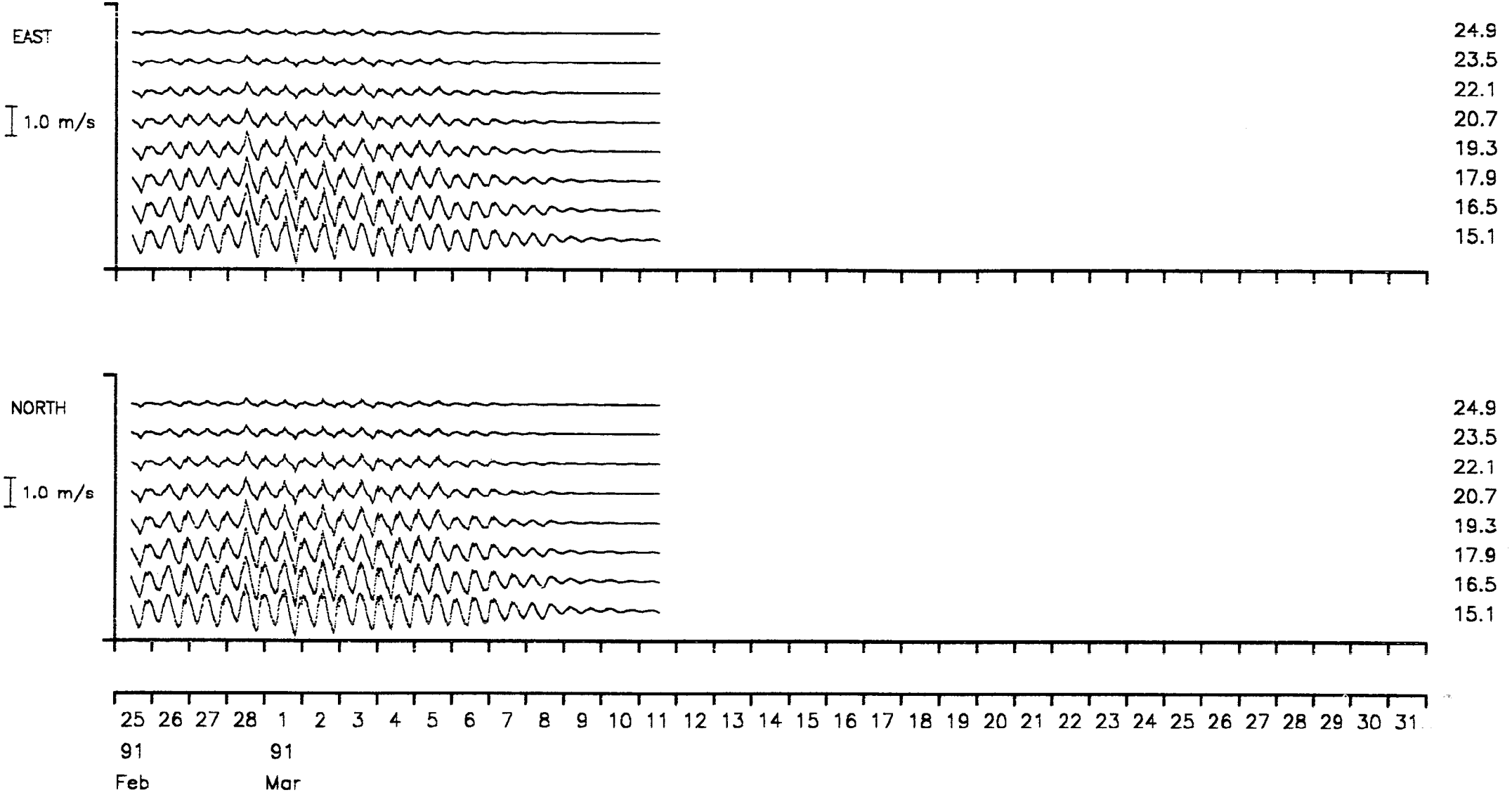


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht

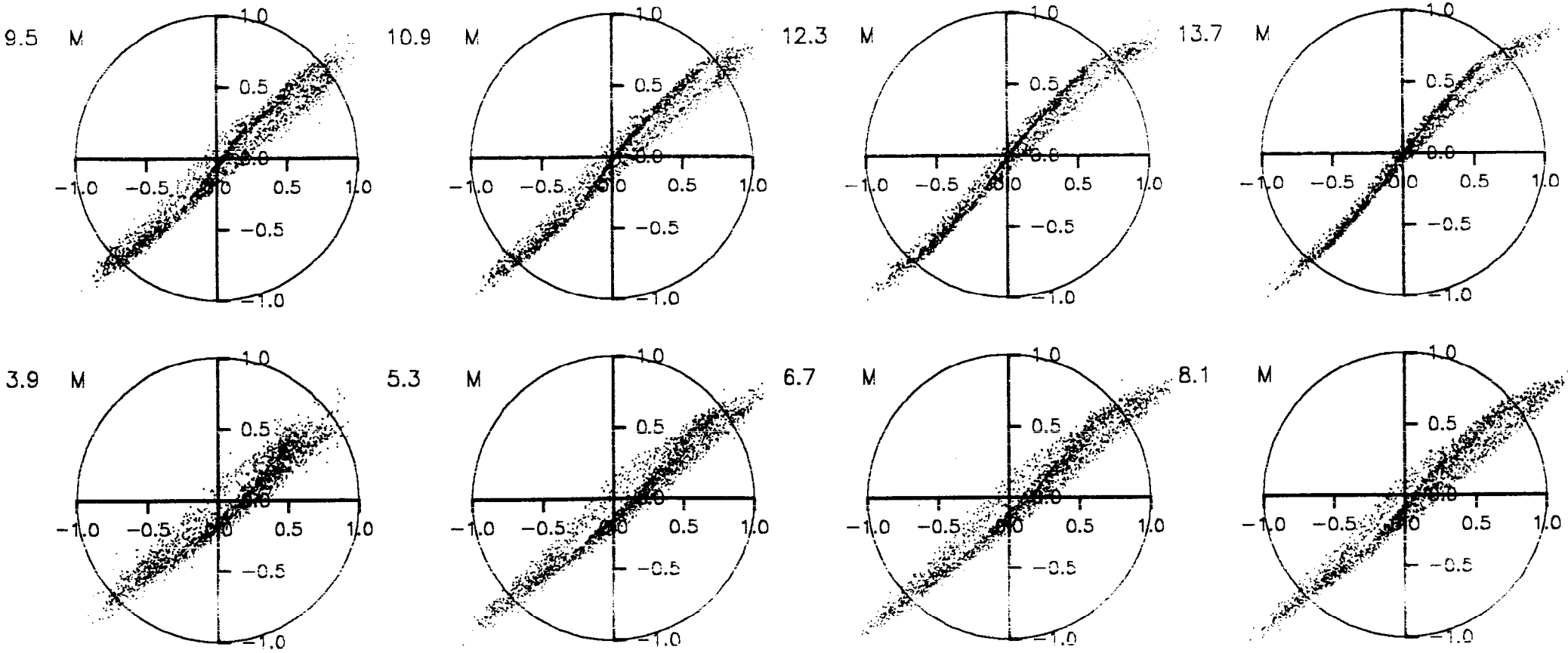


SCATTER PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht

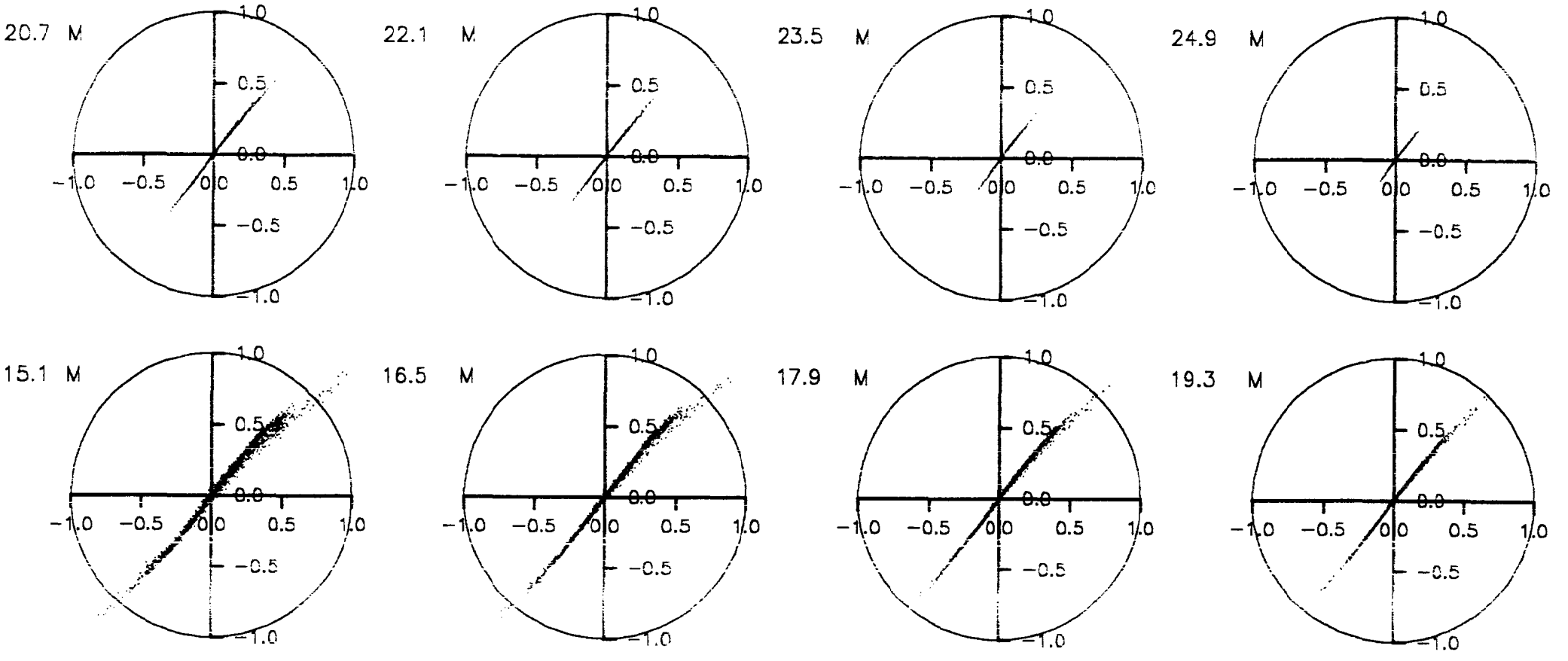


SCATTER PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht

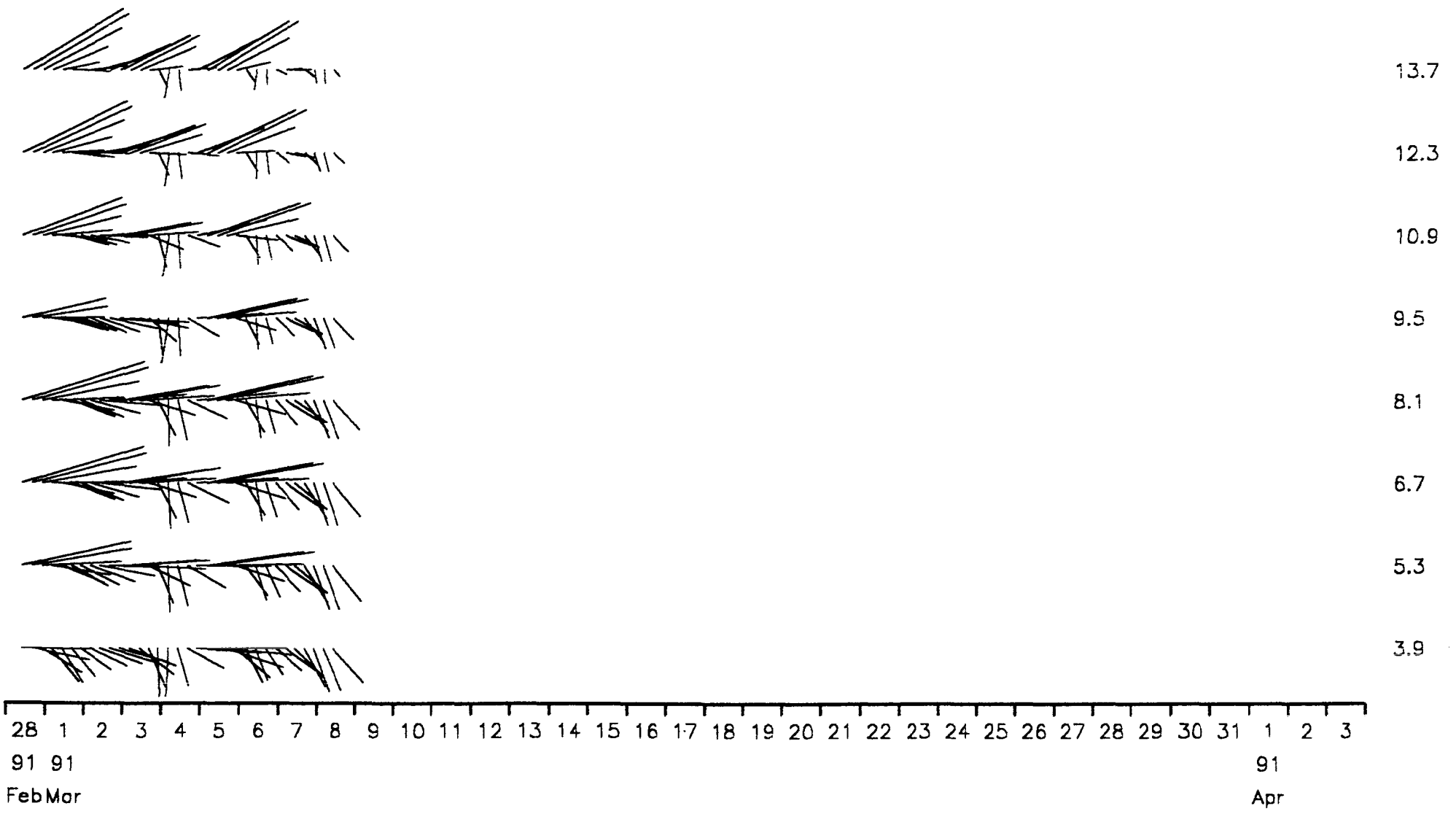


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht

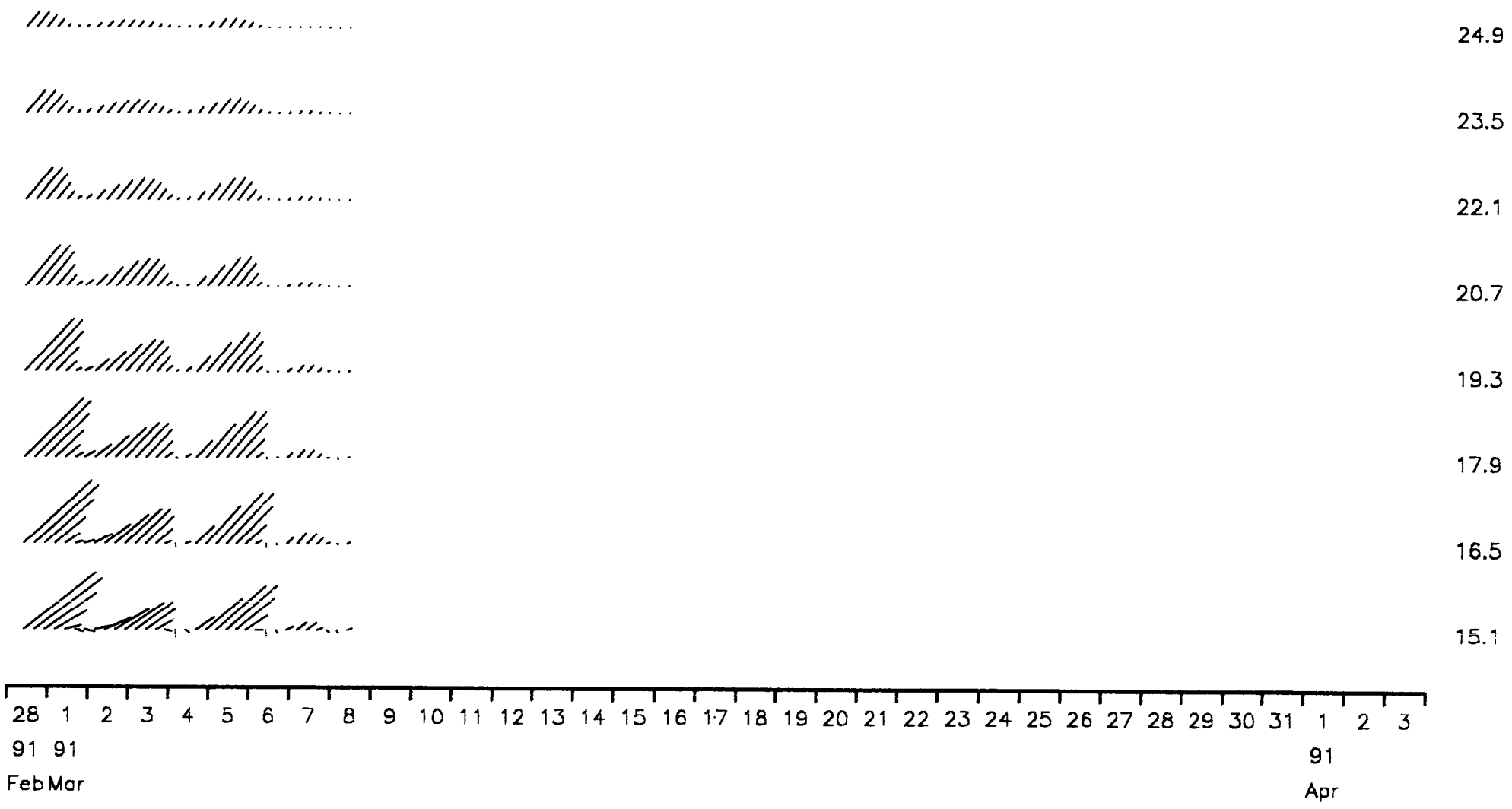


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht



STATISTICS FOR DP0004 00470

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.089	113.5	0.3010	50.3	0.0047	140.3
2	5.3	0.104	102.3	0.4242	49.7	0.0039	139.7
3	6.7	0.105	97.5	0.4658	49.3	0.0039	139.3
4	8.1	0.098	94.9	0.4737	48.7	0.0038	138.7
5	9.5	0.072	98.0	0.3871	47.6	0.0036	137.6
6	10.9	0.071	88.5	0.4091	46.5	0.0032	136.5
7	12.3	0.066	80.0	0.3889	45.0	0.0026	135.0
8	13.7	0.058	72.7	0.3402	43.3	0.0018	133.3
9	15.1	0.038	57.8	0.1699	40.6	0.0006	130.6
10	16.5	0.038	48.1	0.1347	39.1	0.0003	129.1
11	17.9	0.034	45.5	0.0894	38.6	0.0001	128.6
12	19.3	0.029	43.3	0.0528	38.3	0.0001	128.3
13	20.7	0.022	42.0	0.0255	37.8	0.0000	127.8
14	22.1	0.017	40.9	0.0130	37.6	0.0000	127.6
15	23.5	0.013	39.9	0.0056	37.3	0.0000	127.3
16	24.9	0.007	39.9	0.0025	37.1	0.0000	127.1

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.077	126.9	0.0019	58.5	0.0001	148.5
2	5.3	0.092	108.4	0.0043	57.3	0.0000	147.3
3	6.7	0.098	102.7	0.0059	56.8	0.0000	146.8
4	8.1	0.097	100.6	0.0060	56.9	0.0000	146.9
5	9.5	0.072	109.1	0.0033	58.7	0.0000	148.7
6	10.9	0.075	95.8	0.0046	56.5	0.0000	146.5
7	12.3	0.075	83.5	0.0053	54.4	0.0000	144.4
8	13.7	0.070	73.7	0.0052	52.3	0.0000	142.3
9	15.1	0.046	58.9	0.0022	48.7	0.0000	138.7
10	16.5	0.049	48.7	0.0022	44.8	0.0000	134.8
11	17.9	0.046	45.5	0.0018	42.8	0.0000	132.8
12	19.3	0.040	43.2	0.0013	41.3	0.0000	131.3
13	20.7	0.030	41.7	0.0008	39.6	0.0000	129.6
14	22.1	0.023	40.5	0.0004	39.1	0.0000	129.1
15	23.5	0.017	39.8	0.0002	38.9	0.0000	128.9
16	24.9	0.010	39.6	0.0001	38.3	0.0000	128.3

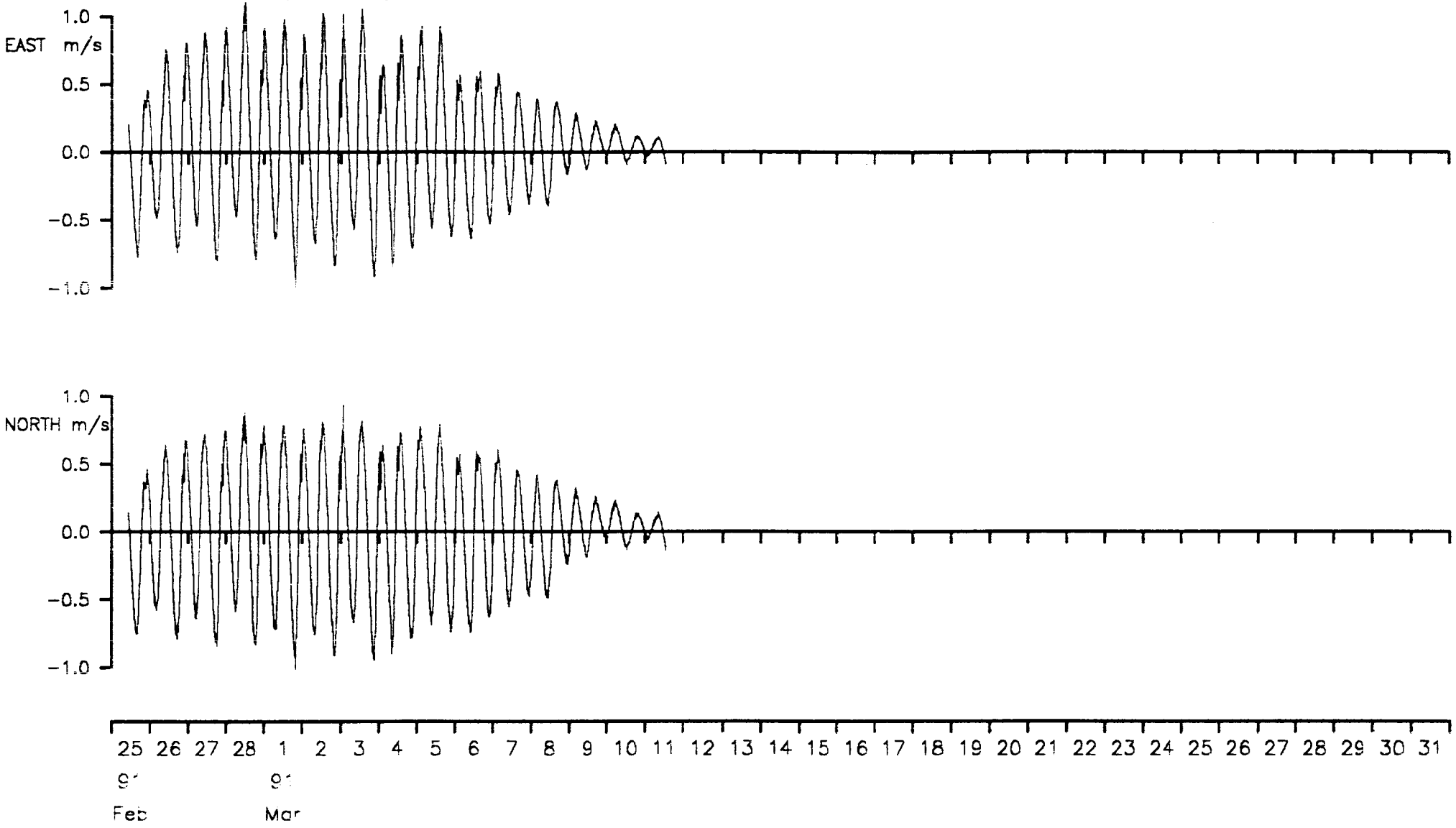
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



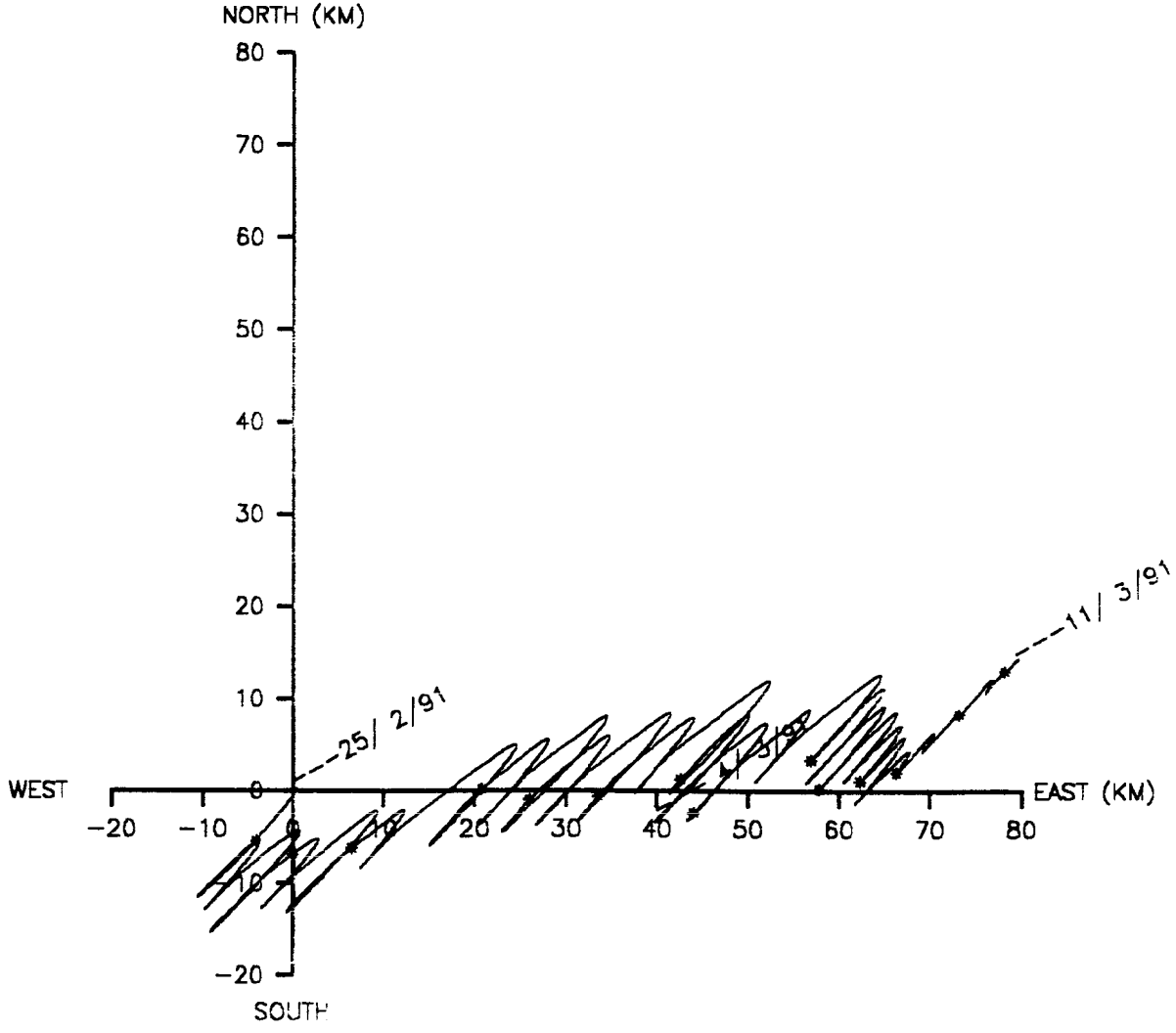
VECTOR PLOT

Meter no. 0004 Rig no. 00470 Depth of water(m) 30.0

Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 20:00:00

Position 50 56.57N 01 16.29E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 004707 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0653	0.19571692E+00	0.44239908E+00
Northings	0.0115	0.19574493E+00	0.44243068E+00
Speed	0.5223	0.12295556E+00	0.35065031E+00

Vector mean speed 0.0663
Vector Mean Direction 80.0

Maximum ten values

Eastings					Northings				
1.100	1.075	1.051	1.049	1.030	0.934	0.873	0.847	0.831	0.814
1.022	1.021	1.021	1.012	1.009	0.808	0.802	0.797	0.792	0.789

Minimum ten values

Eastings					Northings				
-0.880	-0.890	-0.897	-0.913	-0.917	-0.903	-0.907	-0.908	-0.914	-0.925
-0.919	-0.921	-0.929	-0.958	-0.990	-0.929	-0.932	-0.934	-0.946	-1.012

Maximum speeds

1.416	1.385	1.378	1.378	1.332	1.328	1.318	1.311	1.308	1.303
1.291	1.289	1.288	1.287	1.287	1.283	1.282	1.278	1.273	1.272
1.268	1.261	1.259	1.253	1.253	1.250	1.245	1.244	1.240	1.240
1.240	1.232	1.229	1.227	1.227	1.223	1.222	1.220	1.213	1.207
1.207	1.206	1.203	1.200	1.198	1.196	1.193	1.193	1.193	1.192
1.190	1.188	1.188	1.186	1.183	1.181	1.180	1.177	1.177	1.176
1.176	1.176	1.173	1.172	1.171	1.170	1.170	1.169	1.169	1.169
1.168	1.168	1.165	1.164	1.163	1.163	1.161	1.158	1.158	1.158
1.157	1.156	1.153	1.152	1.146	1.145	1.143	1.143	1.142	1.142
1.141	1.141	1.139	1.139	1.138	1.137	1.136	1.136	1.136	1.135

Variance ellipse statistics

Maximum variance 0.3889E+00 Direction 45.0

Minimum variance 0.2560E-02 Direction 135.0

Total variance 0.3915E+00 Ratio of variances 0.6583E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 5.1

Average direction. maxdir +PI/2 to maxdir -PI/2 170.2

Statistics for DP0004 004707F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0743	0.35223265E-02	0.59349190E-01
Northings	0.0085	0.18121763E-02	0.42569663E-01
Speed	0.0879	0.31255751E-02	0.55906847E-01

Vector mean speed 0.0747
Vector Mean Direction 83.5

Maximum ten values

Eastings					Northings				
0.190	0.181	0.163	0.162	0.150	0.094	0.085	0.079	0.079	0.059
0.139	0.137	0.124	0.119	0.117	0.052	0.050	0.047	0.046	0.034

Minimum ten values

Eastings					Northings				
0.023	0.020	0.020	0.017	0.010	-0.019	-0.021	-0.033	-0.033	-0.033
0.009	0.005	0.004	-0.001	-0.009	-0.037	-0.041	-0.046	-0.047	-0.059

Maximum speeds

0.213	0.200	0.181	0.180	0.161	0.148	0.146	0.133	0.128	0.122
0.118	0.113	0.093	0.077	0.072	0.068	0.066	0.061	0.061	0.060
0.056	0.047	0.046	0.044	0.038	0.038	0.037	0.037	0.035	0.034
0.031	0.030	0.027							

Variance ellipse statistics

Maximum variance 0.5309E-02 Direction 54.4

Minimum variance 0.2579E-04 Direction 144.4

Total variance 0.5334E-02 Ratio of variances 0.4858E-02

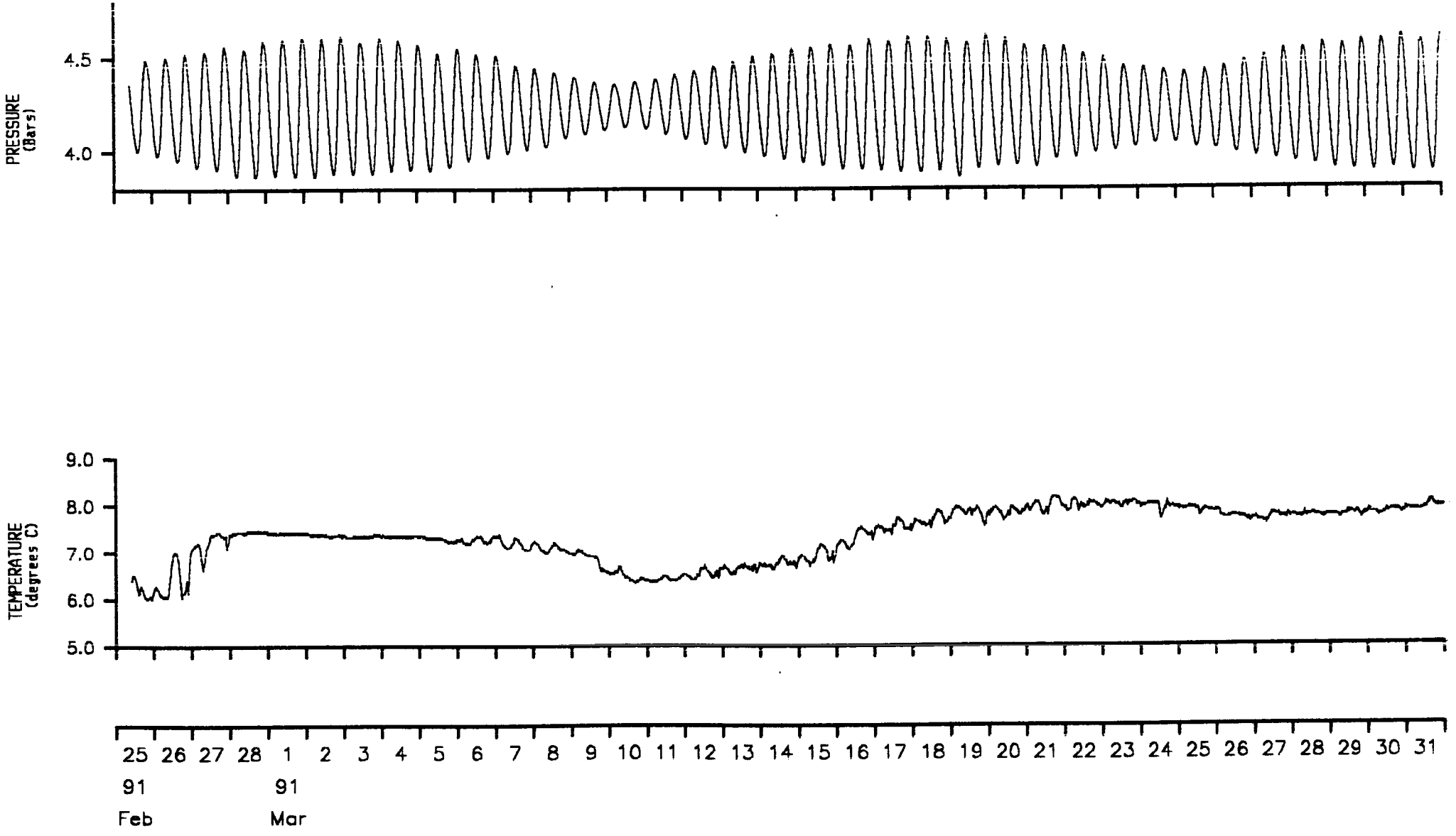
Average direction. maxdir -PI/2 to maxdir +PI/2 31.6

Average direction. maxdir +PI/2 to maxdir -PI/2 114.5

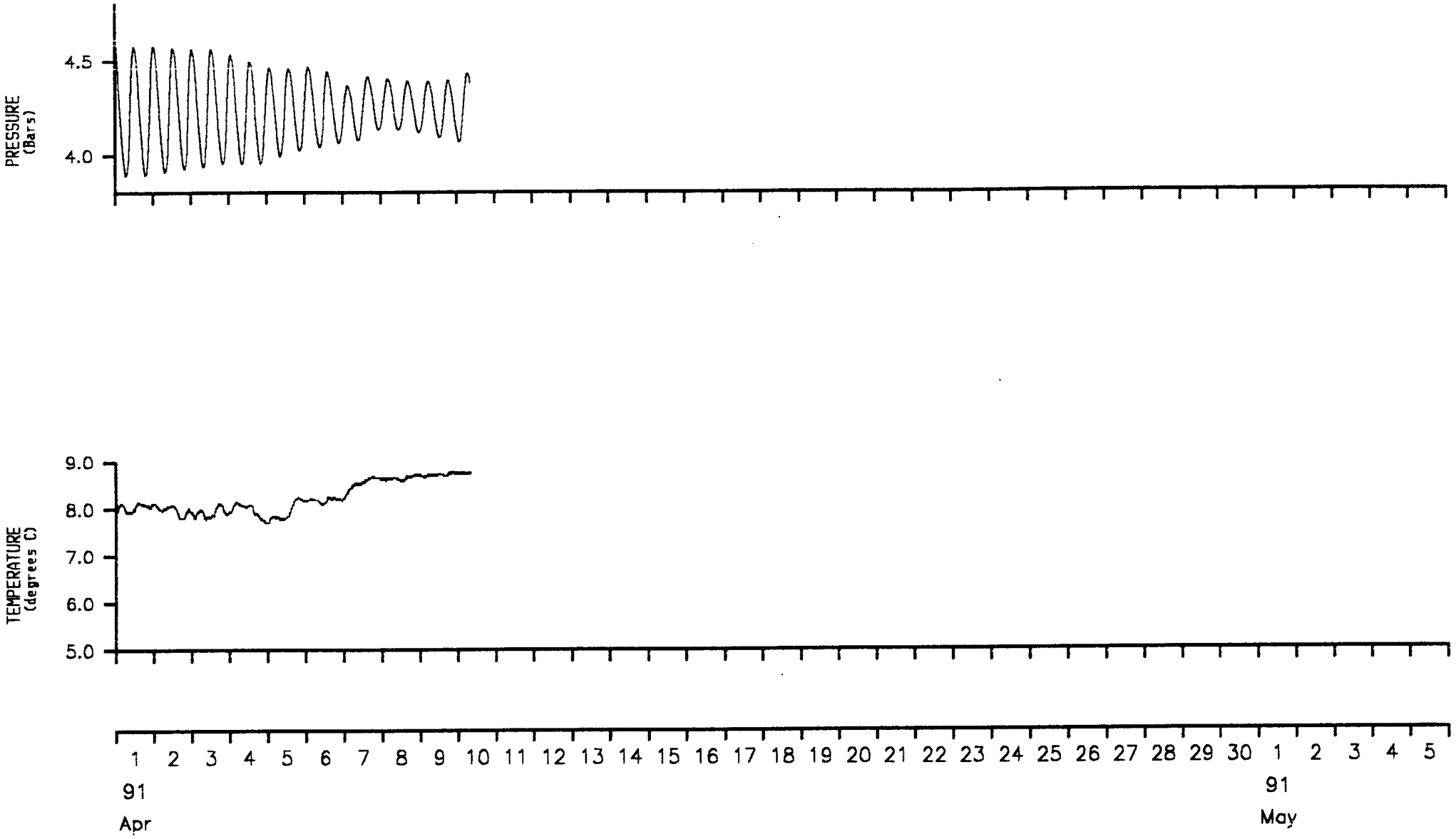
Meter information details for 0915

Rig No	:	00470
Meter No	:	0915
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	24-FEB-91 12:30:50
Meter stopped	:	12-APR-91 10:31:30
Period switched on	:	46.9 days
Period of good data	:	44.0 days
Total number of scans	:	6330
Timing error	:	40 seconds slow
Comments	:	Good record obtained
		End time mix up with BST and GMT

Meter no. 0915 Rig no. 00470 Depth of water(m) 30.0
Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 09:15:00
Position 50 56.57N 01 16.29E Meter Height(m) 0.5



Meter no. 0915 Rig no. 00470 Depth of water(m) 30.0
Start/End 1991/02/25 AT 10:20:00 1991/04/10 AT 09:15:00
Position 50 56.57N 01 16.29E Meter Height(m) 0.5



Rig information details for 00472

Position Latitude	:	50 56.70N
Position Longitude	:	01 16.40E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER11
Recovered on cruise	:	DOVER12
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	10-APR-91 09:20:00
Rig recovered on	:	13-MAY-91 10:20:00
Period of deployment	:	33.0 days
Comments	:	Launch and recovery successful

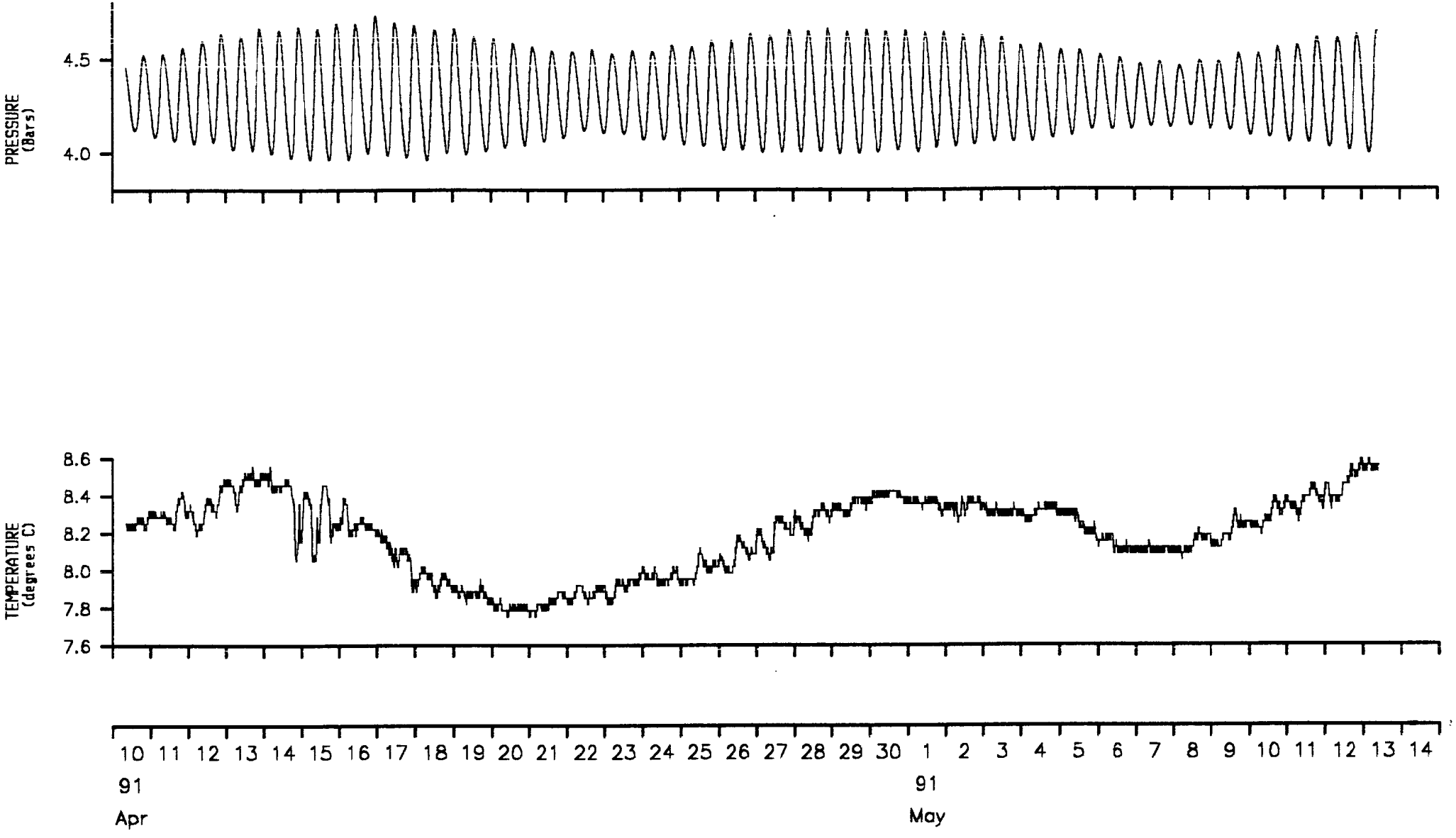
Meter information details for 0010

Rig No	:	00472
Meter No	:	0010
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Period of good data	:	0.0 days
Comments	:	Corrupted data set

Meter information details for 1038

Rig No	:	00472
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	24-MAR-91 11:10:28
Meter stopped	:	15-MAY-91 08:51:00
Period switched on	:	51.9 days
Period of good data	:	33.0 days
Total number of scans	:	4758
Timing error	:	32 seconds slow
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00472 Depth of water(m) 30.0
Start/End 1991/04/10 AT 09:20:00 1991/05/13 AT 10:20:00
Position 50 56.70N 01 16.40E Meter Height(m) 0.5



Rig information details for 00474

Position Latitude	:	50 56.60N
Position Longitude	:	01 16.40E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER12
Recovered on cruise	:	DOVER13
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	13-MAY-91 11:20:00
Rig recovered on	:	11-JUNE-91 09:00:00
Period of deployment	:	28.9 days
Comments	:	Launch and recovery successful

Meter information details for 0004

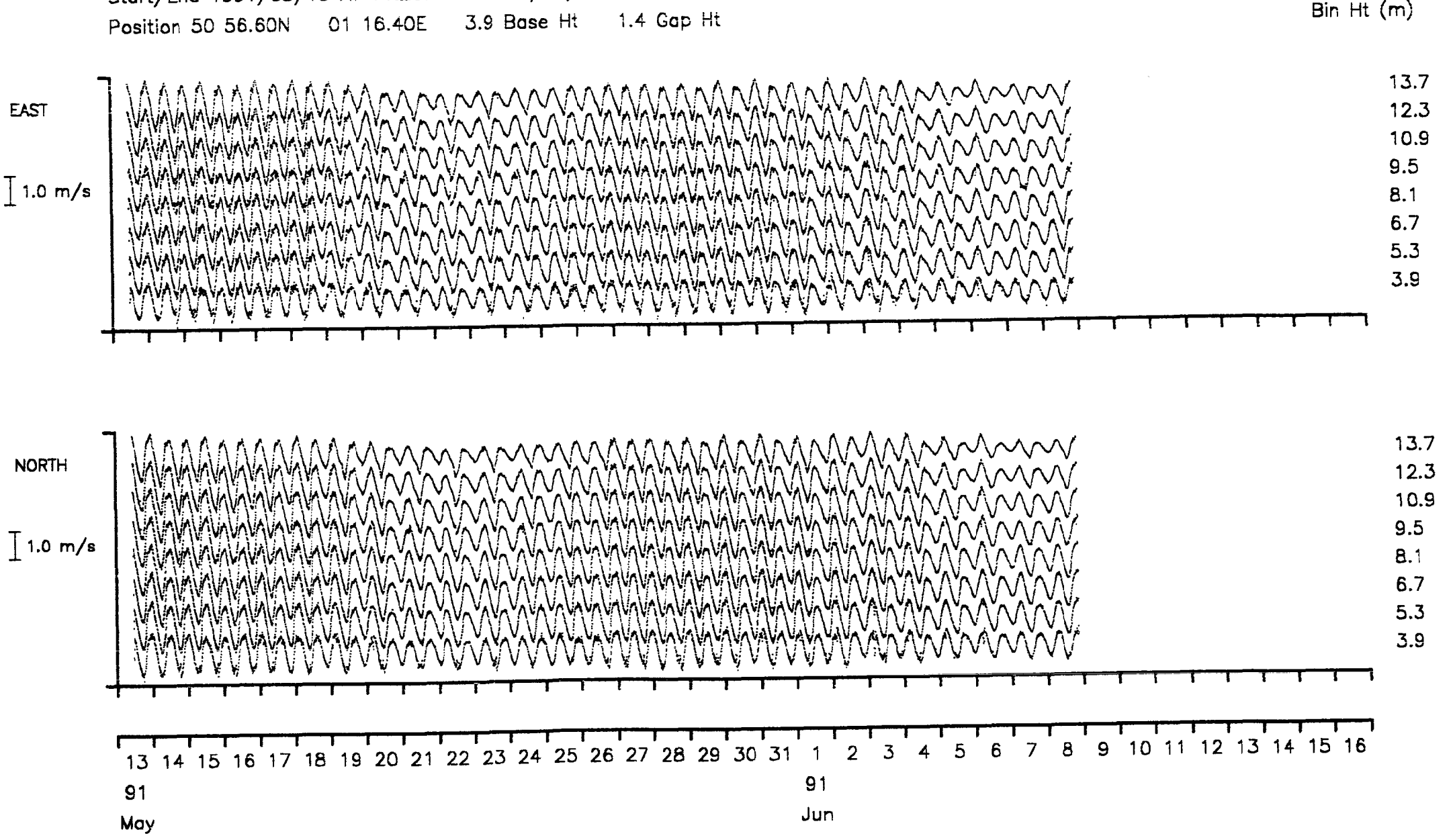
Rig No	:	00474
Meter No	:	0004
Frame angle correction	:	174.2 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	13-MAY-91 11:09:35
Time of last valid scan	:	08-JUNE-91 20:59:27
Period of good data	:	26.3 days short record
Total number of scans	:	3792
Timing error	:	8 seconds fast
Comments	:	Ten increments of 20 minutes instead of 10 minutes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

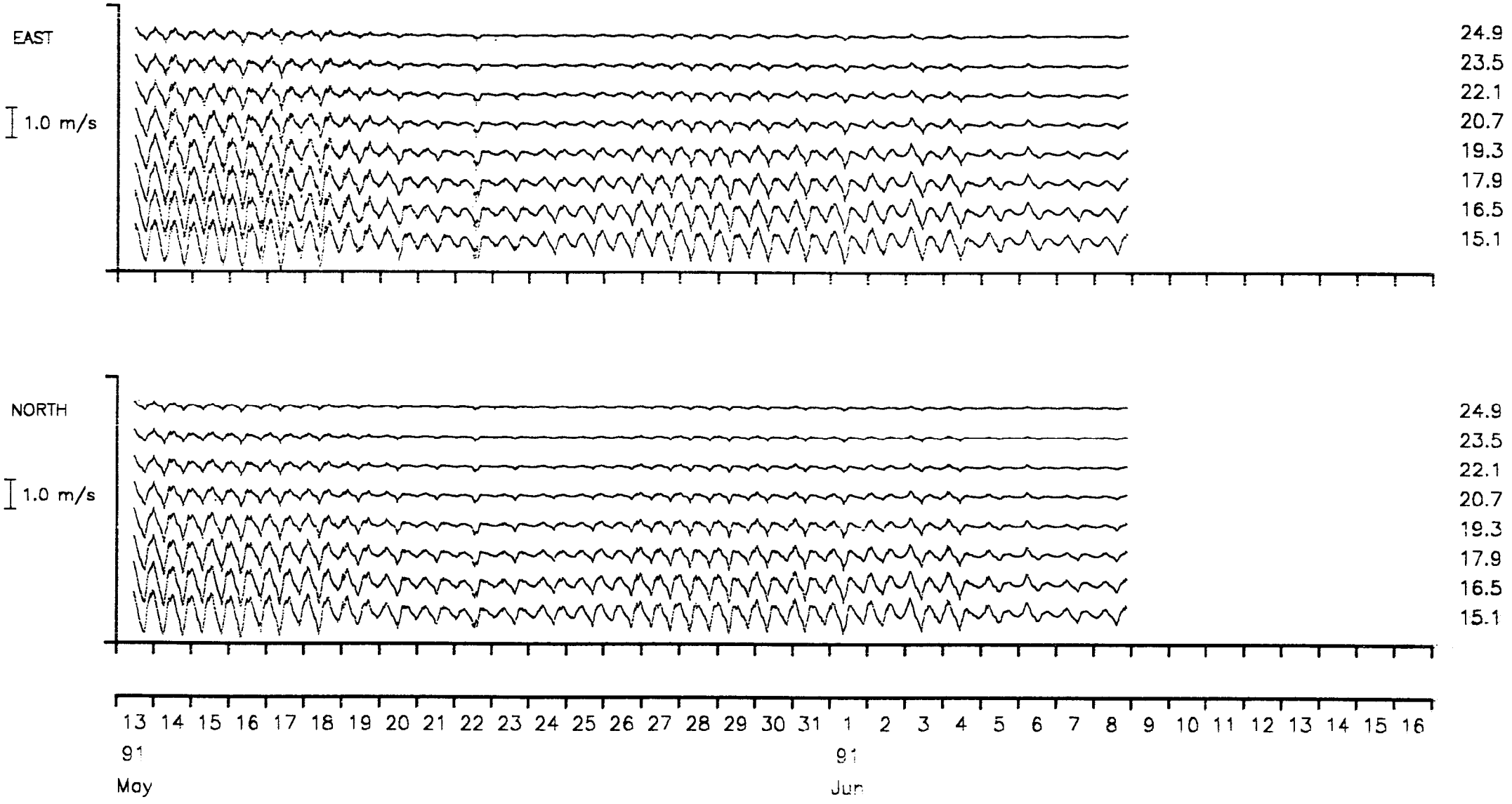


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

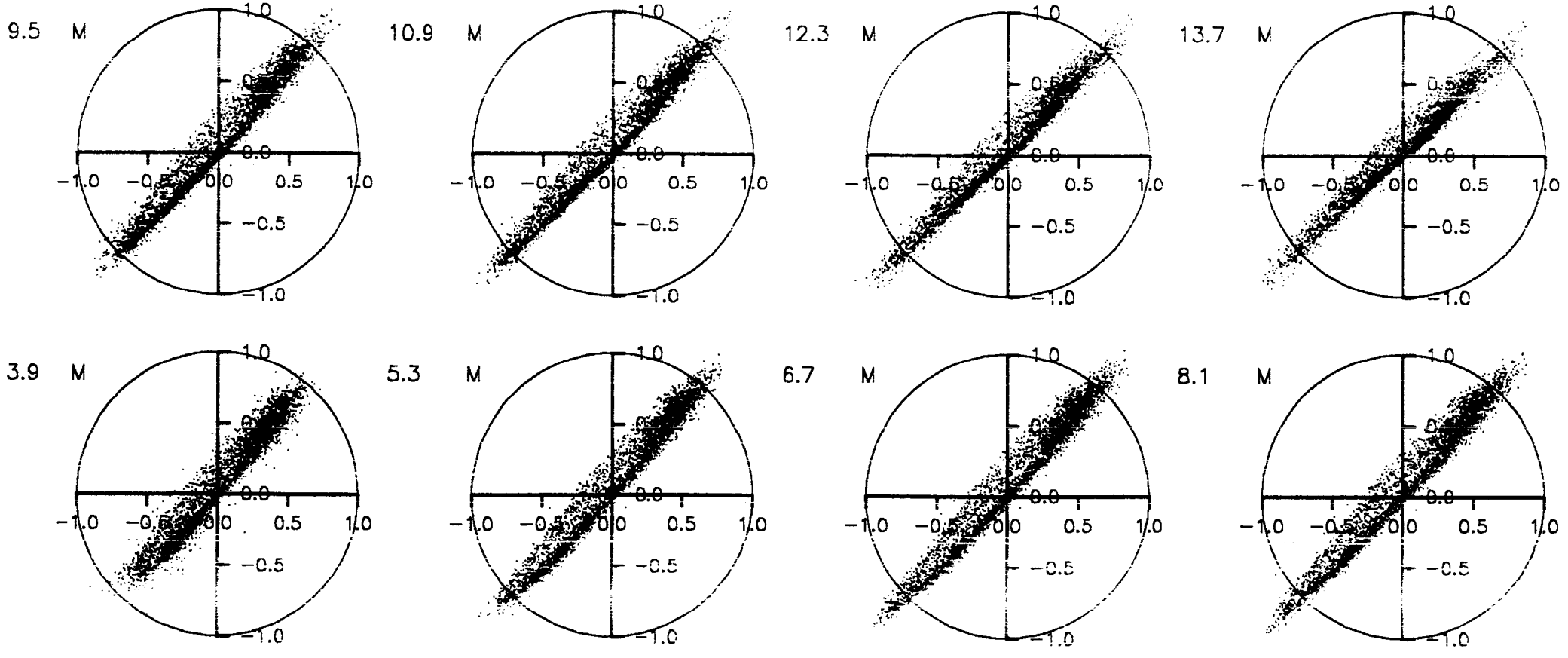


SCATTER PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

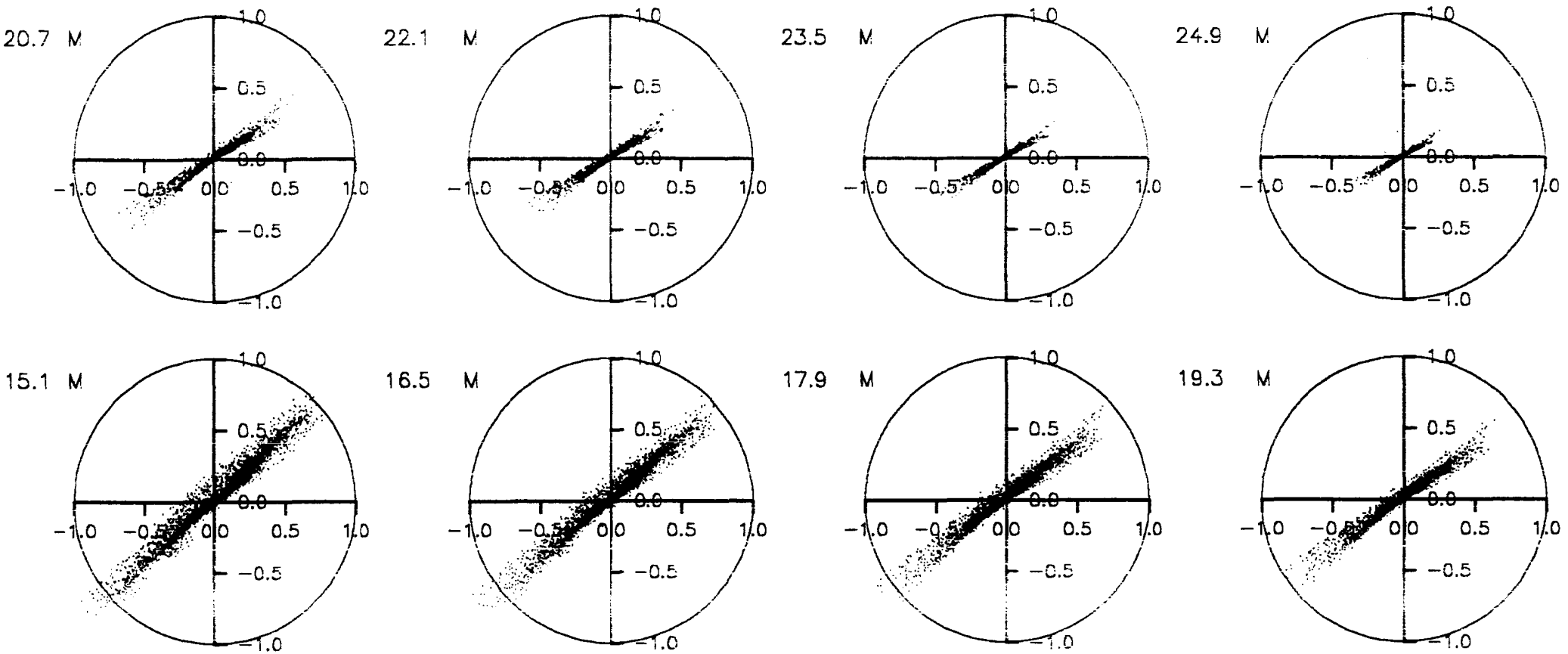


SCATTER PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

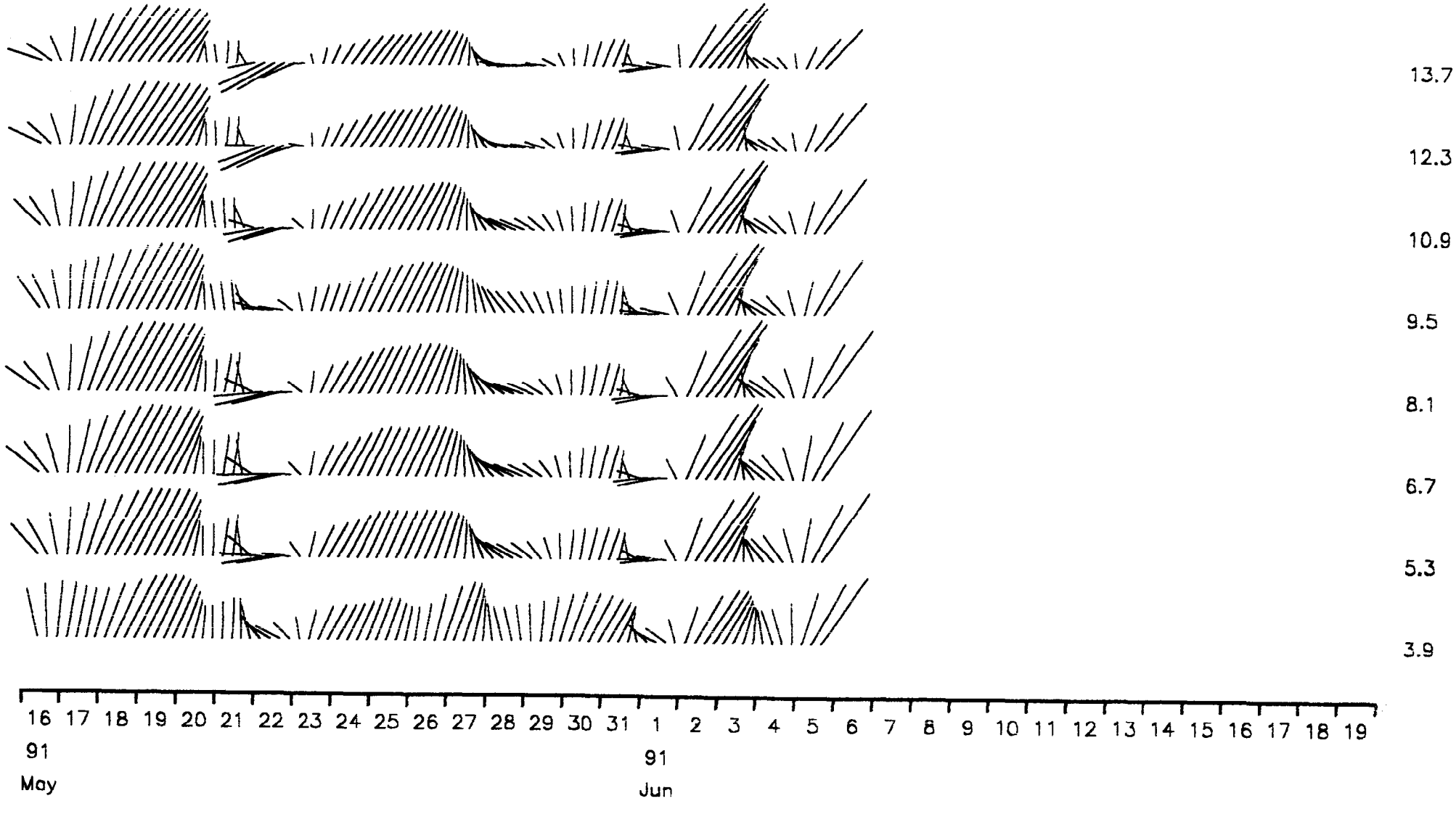


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

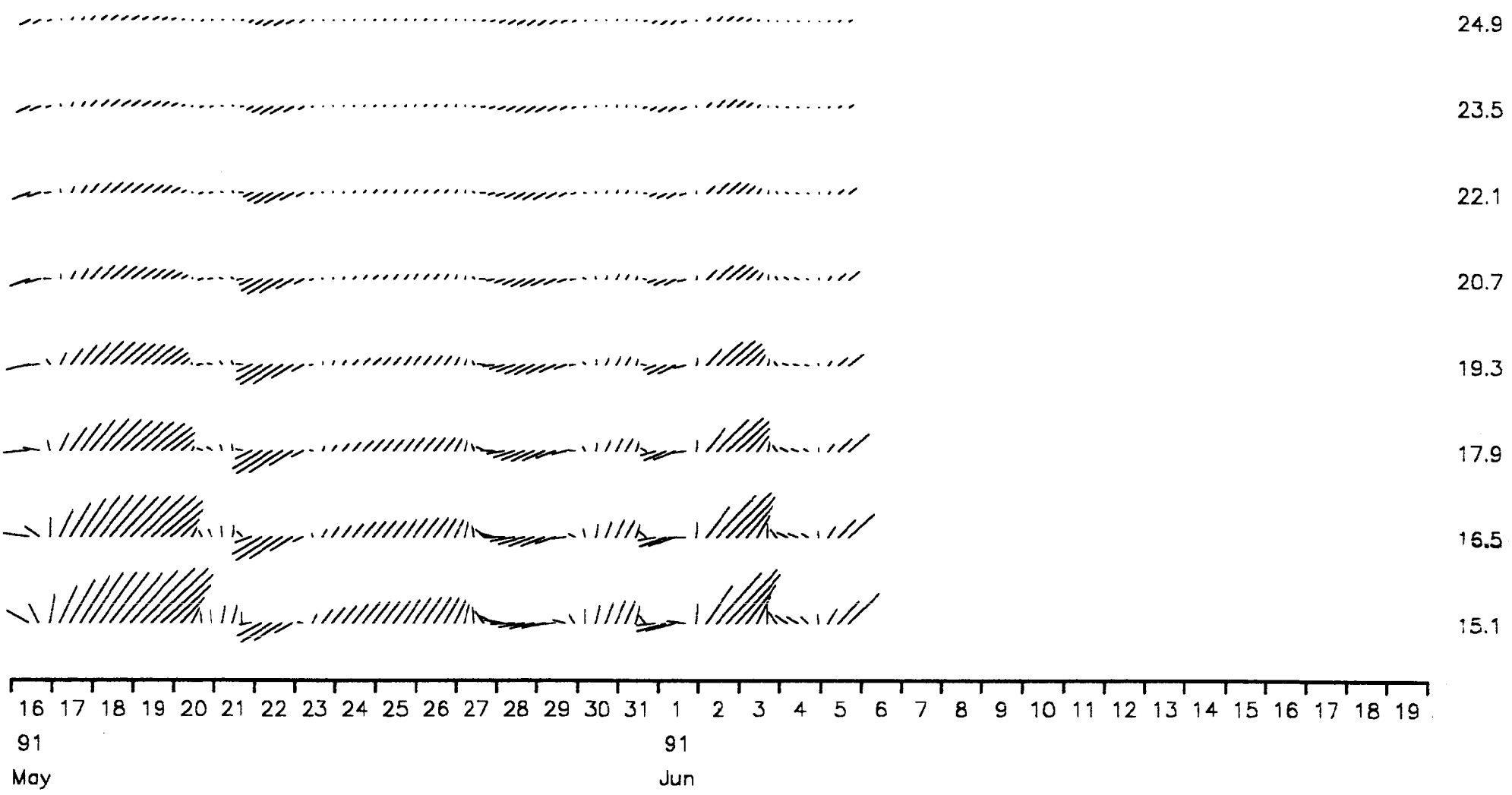


STICK TIME SERIES PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht



STATISTICS FOR DP0004 00474

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.080	13.7	0.2541	40.5	0.0038	130.5
2	5.3	0.071	8.9	0.3737	41.5	0.0034	131.5
3	6.7	0.069	7.6	0.4131	42.0	0.0035	132.0
4	8.1	0.067	7.7	0.4205	42.5	0.0035	132.5
5	9.5	0.068	9.9	0.3464	42.2	0.0033	132.2
6	10.9	0.061	9.7	0.3552	43.5	0.0031	133.5
7	12.3	0.053	10.3	0.3158	45.0	0.0027	135.0
8	13.7	0.044	11.6	0.2522	46.6	0.0022	136.6
9	15.1	0.035	19.8	0.1553	48.2	0.0016	138.2
10	16.5	0.024	17.5	0.1193	50.1	0.0012	140.1
11	17.9	0.016	16.0	0.0791	52.3	0.0007	142.3
12	19.3	0.009	11.6	0.0489	54.2	0.0004	144.2
13	20.7	0.005	6.9	0.0236	55.9	0.0002	145.9
14	22.1	0.003	-0.4	0.0141	57.1	0.0001	147.1
15	23.5	0.001	-32.5	0.0071	58.4	0.0001	148.4
16	24.9	0.001	-32.0	0.0034	59.1	0.0000	149.1

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.076	13.0	0.0012	52.0	0.0001	142.0
2	5.3	0.065	7.0	0.0028	50.6	0.0001	140.6
3	6.7	0.064	5.3	0.0034	50.1	0.0001	140.1
4	8.1	0.062	5.4	0.0037	50.6	0.0001	140.6
5	9.5	0.063	7.2	0.0023	49.3	0.0001	139.3
6	10.9	0.057	7.3	0.0032	50.1	0.0001	140.1
7	12.3	0.050	8.9	0.0035	50.2	0.0001	140.2
8	13.7	0.042	10.6	0.0033	51.0	0.0001	141.0
9	15.1	0.035	21.2	0.0024	51.0	0.0001	141.0
10	16.5	0.023	17.9	0.0020	52.2	0.0000	142.2
11	17.9	0.014	15.4	0.0014	54.1	0.0000	144.1
12	19.3	0.008	7.0	0.0009	55.2	0.0000	145.2
13	20.7	0.003	-18.5	0.0004	57.3	0.0000	147.3
14	22.1	0.002	-30.3	0.0002	57.7	0.0000	147.7
15	23.5	0.002	-72.6	0.0001	58.3	0.0000	148.3
16	24.9	0.001	-75.3	0.0001	59.0	0.0000	149.0

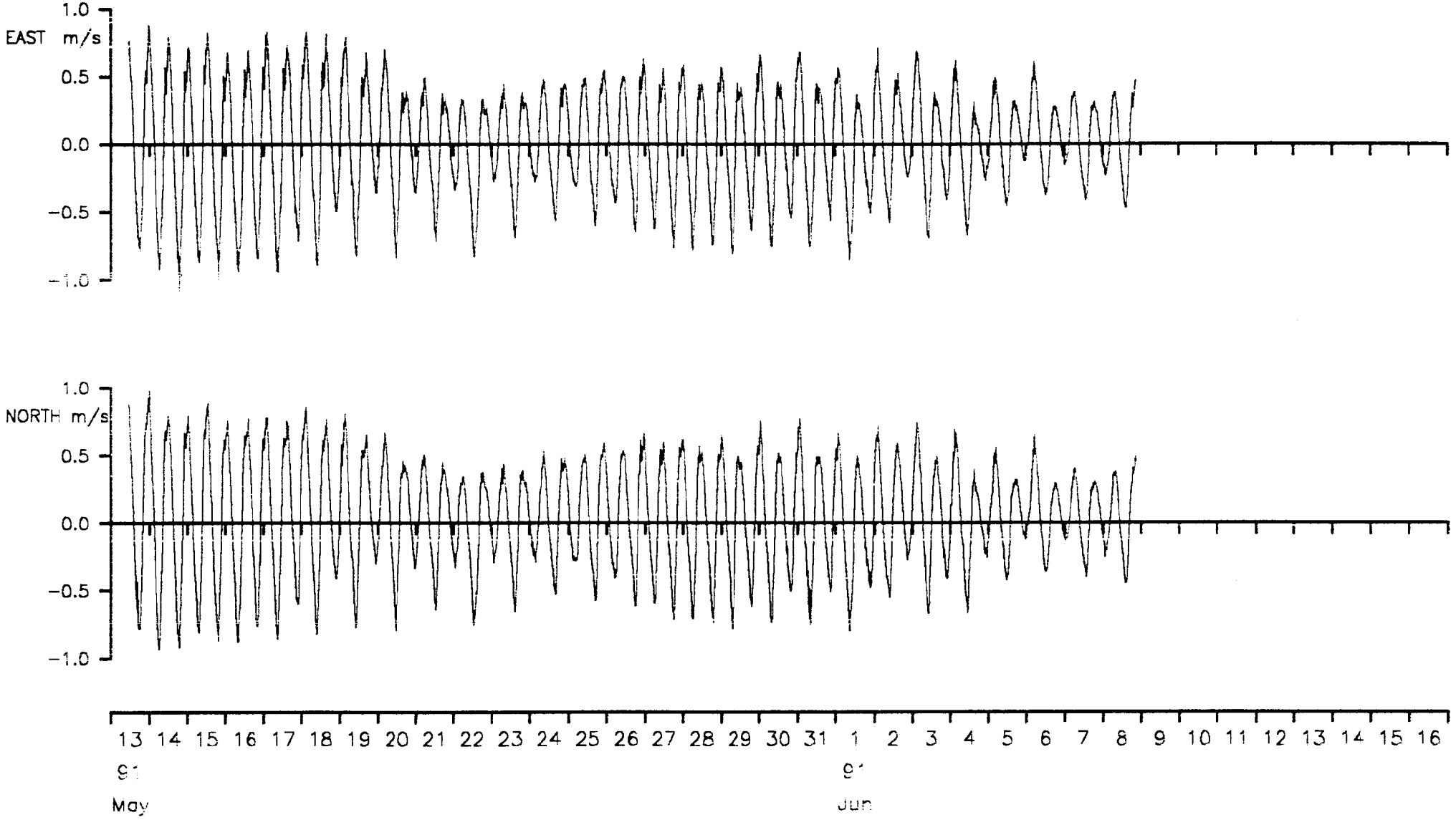
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



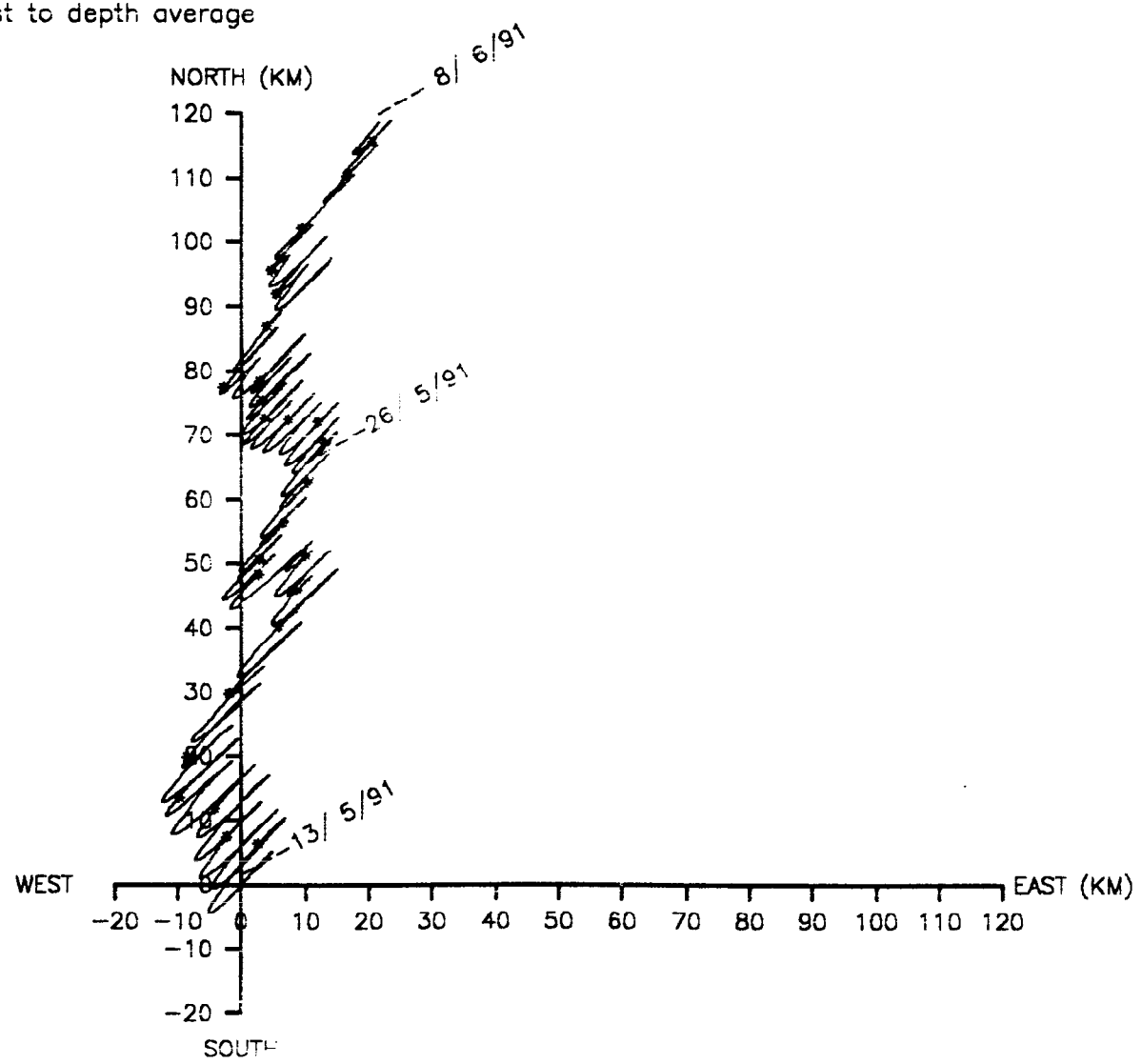
VECTOR PLOT

Meter no. 0004 Rig no. 00474 Depth of water(m) 30.0

Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0004 004747 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0095	0.15947402E+00	0.39934200E+00
Northings	0.0520	0.15899533E+00	0.39874220E+00
Speed	0.4878	0.83323658E-01	0.28865844E+00

Vector mean speed 0.0529
Vector Mean Direction 10.3

Maximum ten values

Eastings					Northings				
0.875	0.868	0.848	0.832	0.832	0.980	0.958	0.922	0.917	0.914
0.824	0.824	0.822	0.813	0.802	0.914	0.886	0.874	0.874	0.870

Minimum ten values

Eastings					Northings				
-0.922	-0.926	-0.935	-0.940	-0.950	-0.876	-0.877	-0.883	-0.884	-0.887
-0.958	-0.959	-0.979	-0.999	-1.081	-0.901	-0.902	-0.923	-0.925	-0.933

Maximum speeds

1.398	1.345	1.325	1.312	1.296	1.293	1.286	1.285	1.278	1.276
1.267	1.266	1.264	1.261	1.258	1.251	1.251	1.240	1.239	1.239
1.236	1.236	1.232	1.219	1.217	1.214	1.213	1.203	1.200	1.198
1.197	1.197	1.189	1.188	1.185	1.180	1.179	1.176	1.173	1.170
1.167	1.166	1.166	1.163	1.161	1.160	1.159	1.158	1.158	1.157
1.152	1.151	1.150	1.150	1.149	1.149	1.141	1.139	1.132	1.132
1.131	1.131	1.127	1.126	1.126	1.123	1.122	1.121	1.120	1.120
1.119	1.117	1.115	1.115	1.114	1.114	1.114	1.113	1.111	1.110
1.110	1.109	1.108	1.108	1.107	1.106	1.106	1.105	1.105	1.104
1.102	1.097	1.097	1.095	1.089	1.089	1.089	1.088	1.087	1.087

Variance ellipse statistics

Maximum variance 0.3158E+00 Direction 45.0

Minimum variance 0.2671E-02 Direction 135.0

Total variance 0.3185E+00 Ratio of variances 0.8457E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 -3.9

Average direction. maxdir +PI/2 to maxdir -PI/2 184.6

Statistics for DP0004 004747F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0078	0.21247694E-02	0.46095219E-01
Northings	0.0499	0.14949022E-02	0.38663968E-01
Speed	0.0704	0.11790895E-02	0.34337871E-01

Vector mean speed 0.0505
Vector Mean Direction 8.9

Maximum ten values

Eastings					Northings				
0.103	0.091	0.087	0.077	0.076	0.129	0.119	0.117	0.114	0.113
0.075	0.075	0.074	0.073	0.073	0.111	0.111	0.110	0.110	0.108

Minimum ten values

Eastings					Northings				
-0.051	-0.051	-0.052	-0.057	-0.061	0.007	0.007	0.005	0.000	-0.009
-0.064	-0.071	-0.084	-0.086	-0.097	-0.011	-0.020	-0.031	-0.041	-0.046

Maximum speeds

0.166	0.150	0.146	0.135	0.134	0.134	0.134	0.133	0.131	0.126
0.121	0.115	0.112	0.108	0.107	0.106	0.095	0.095	0.090	0.089
0.088	0.086	0.085	0.085	0.083	0.081	0.080	0.080	0.079	0.078
0.078	0.072	0.071	0.071	0.070	0.068	0.067	0.065	0.060	0.060
0.059	0.058	0.058	0.056	0.055	0.053	0.053	0.053	0.052	0.052
0.051	0.051	0.051	0.050	0.050	0.049	0.047	0.045	0.045	0.045
0.044	0.044	0.043	0.043	0.041	0.041	0.041	0.040	0.039	0.039
0.037	0.037	0.036	0.036	0.036	0.035	0.034	0.031	0.031	0.030
0.026	0.024								

Variance ellipse statistics

Maximum variance 0.3548E-02 Direction 50.2

Minimum variance 0.7112E-04 Direction 140.2

Total variance 0.3620E-02 Ratio of variances 0.2004E-01

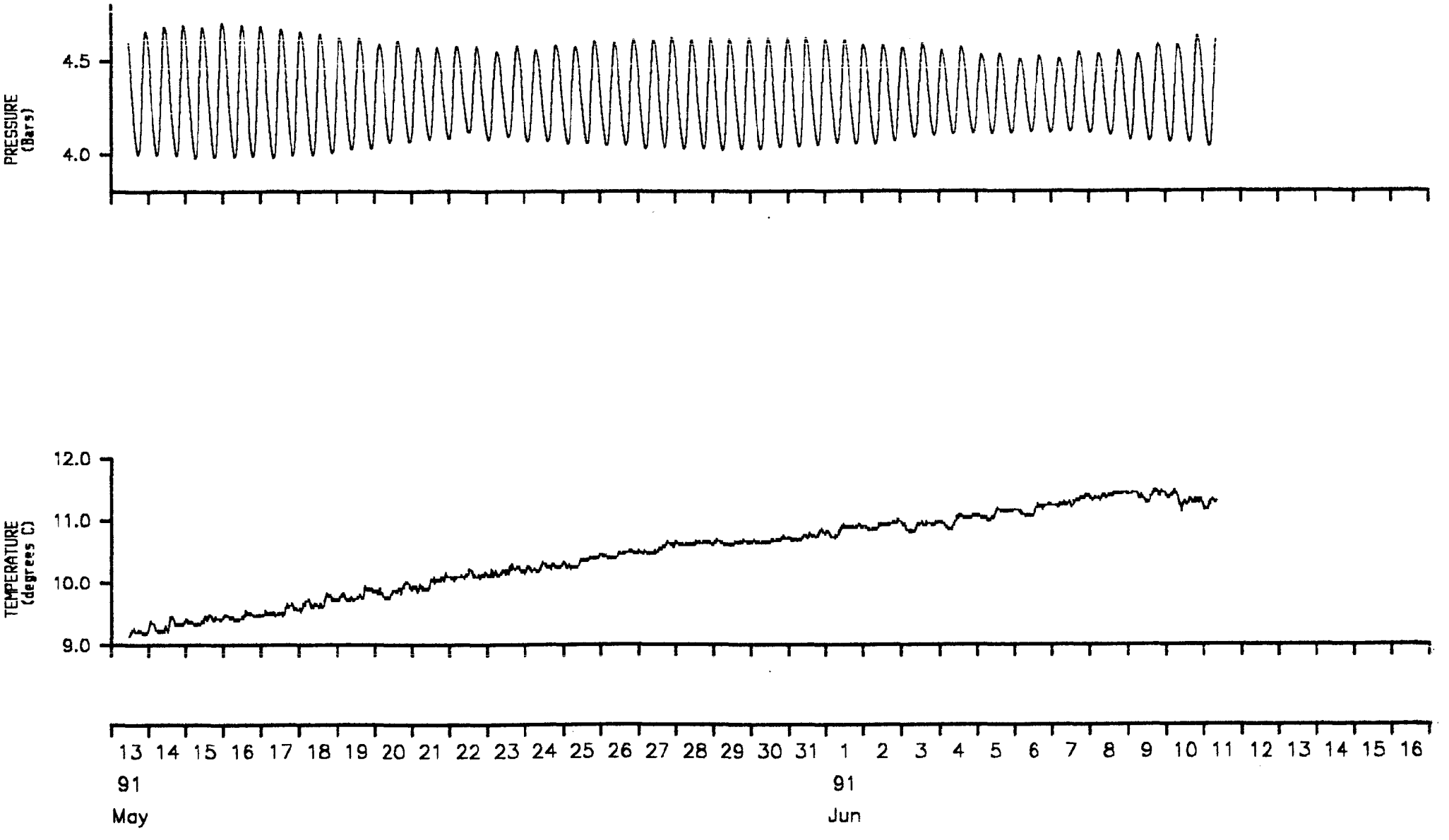
Average direction. maxdir -PI/2 to maxdir +PI/2 -33.3

Average direction. maxdir +PI/2 to maxdir -PI/2 231.7

Meter information details for 0915

Rig No	:	00474
Meter No	:	0915
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	12-MAY-91 10:00:41
Meter stopped	:	13-JUNE-91 11:00:58
Period switched on	:	32.0 days
Period of good data	:	28.9 days
Total number of scans	:	4162
Timing error	:	17 seconds slow
Comments	:	Good record obtained

Meter no. 0915 Rig no. 00474 Depth of water(m) 30.0
Start/End 1991/05/13 AT 11:20:00 1991/06/11 AT 09:00:00
Position 50 56.60N 01 16.40E Meter Height(m) 0.5



Rig information details for 00476

Position Latitude	:	50 56.60N
Position Longitude	:	01 16.40E
Water depth	:	30.0 m
Deployed on cruise	:	DOVER13
Recovered on cruise	:	DOVER14
Site name identification	:	A
Magnetic deviation	:	3.6 degrees west
Rig deployed on	:	11-JUNE-91 10:10:00
Rig recovered on	:	08-JULY-91 06:55:00
Period of deployment	:	26.9 days
Comments	:	Launch and recovery successful

Meter information details for 0010

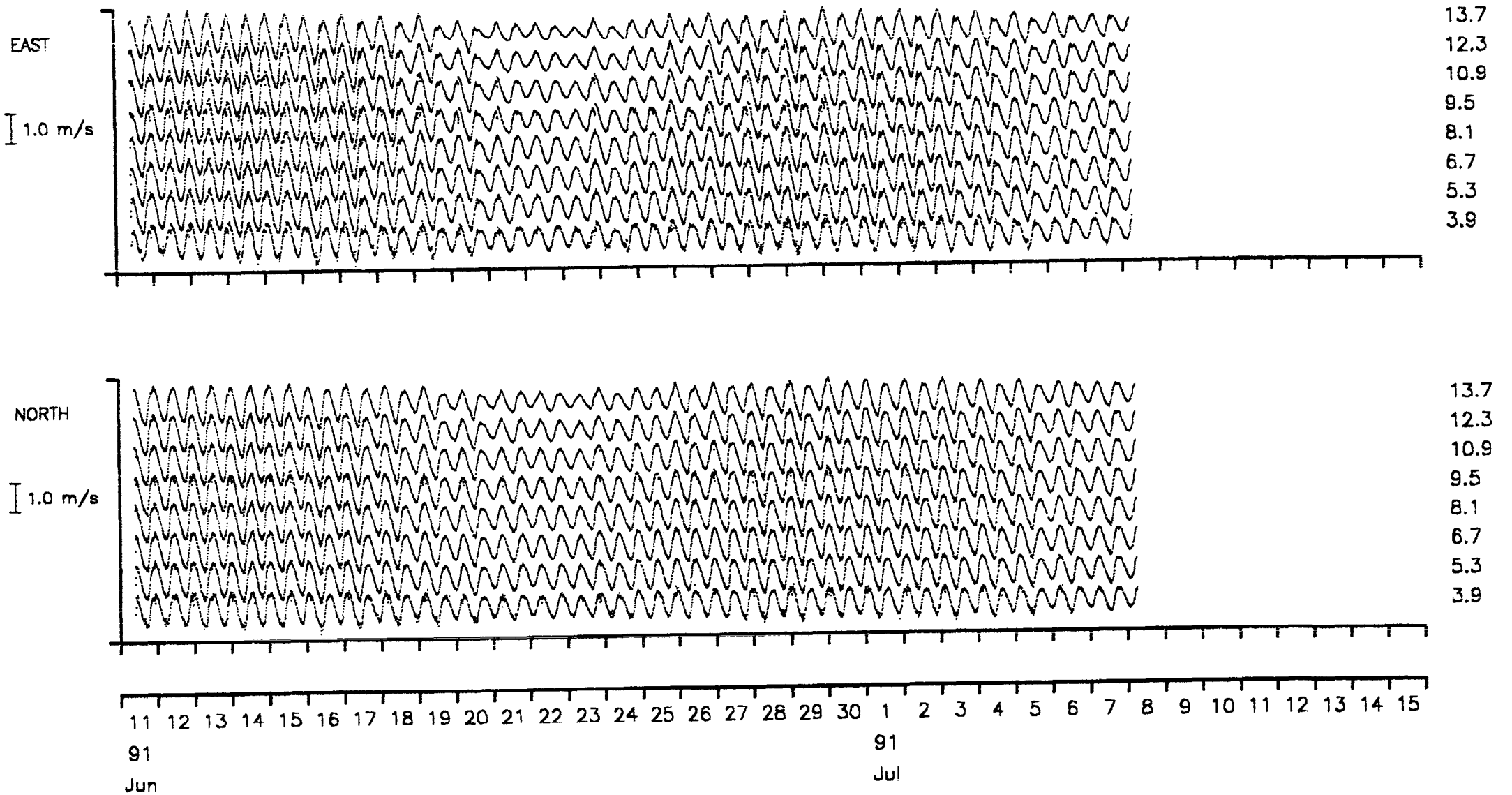
Rig No	:	00476
Meter No	:	0010
Frame angle correction	:	7.1 degrees
Recording interval	:	600.0 seconds
Meter height from the bottom	:	0.5 m
Meter type	:	DP
Meter started	:	11-JUNE-91 06:59:01
Meter stopped	:	08-JULY-91 11:59:02
Period switched on	:	27.2 days
Period of good data	:	26.9 days
Total number of scans	:	3868
Timing error	:	1 second slow
Comments	:	Good record obtained
		Channel 1 recording Beam 2 and vice versa

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

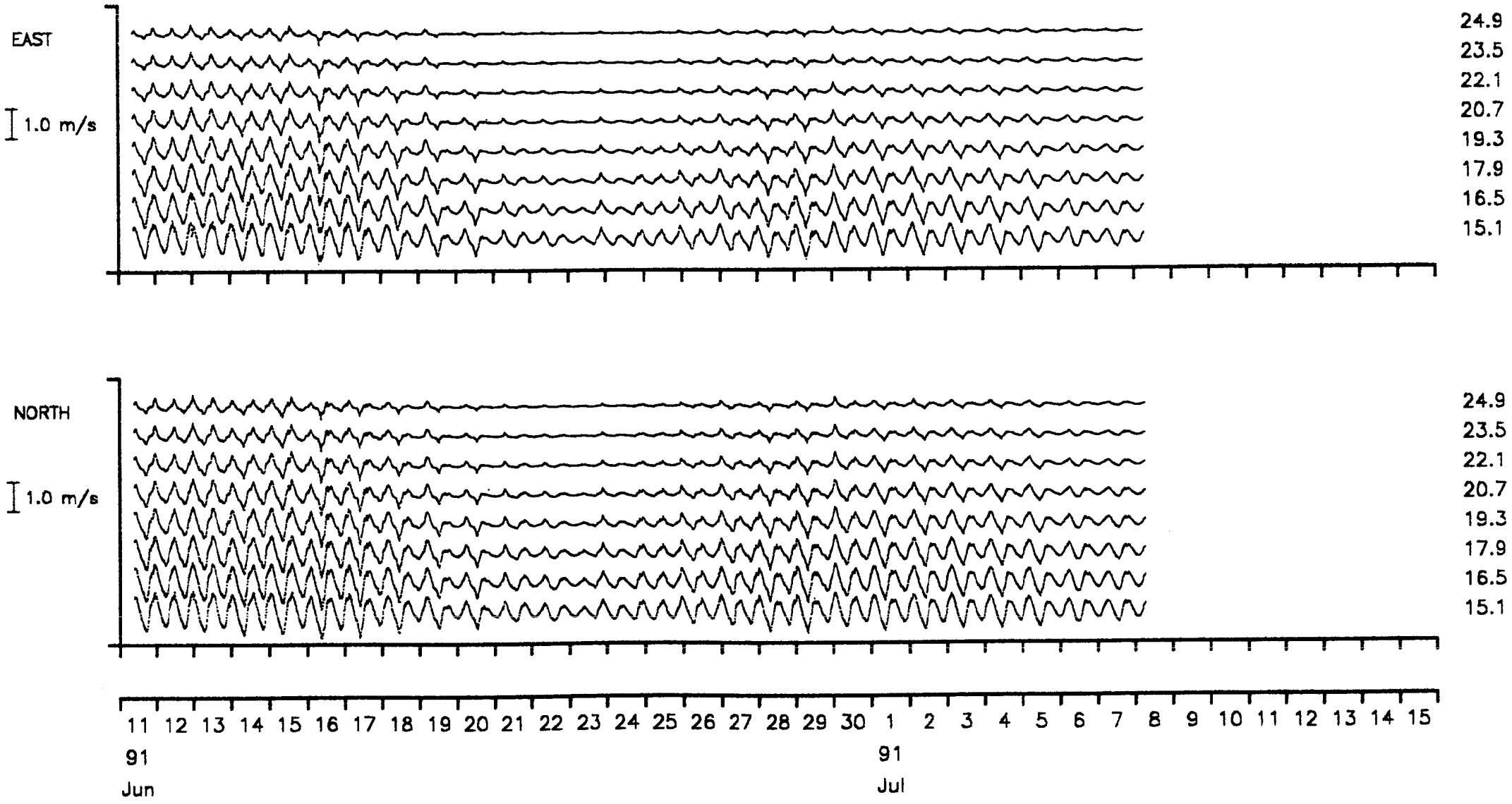


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

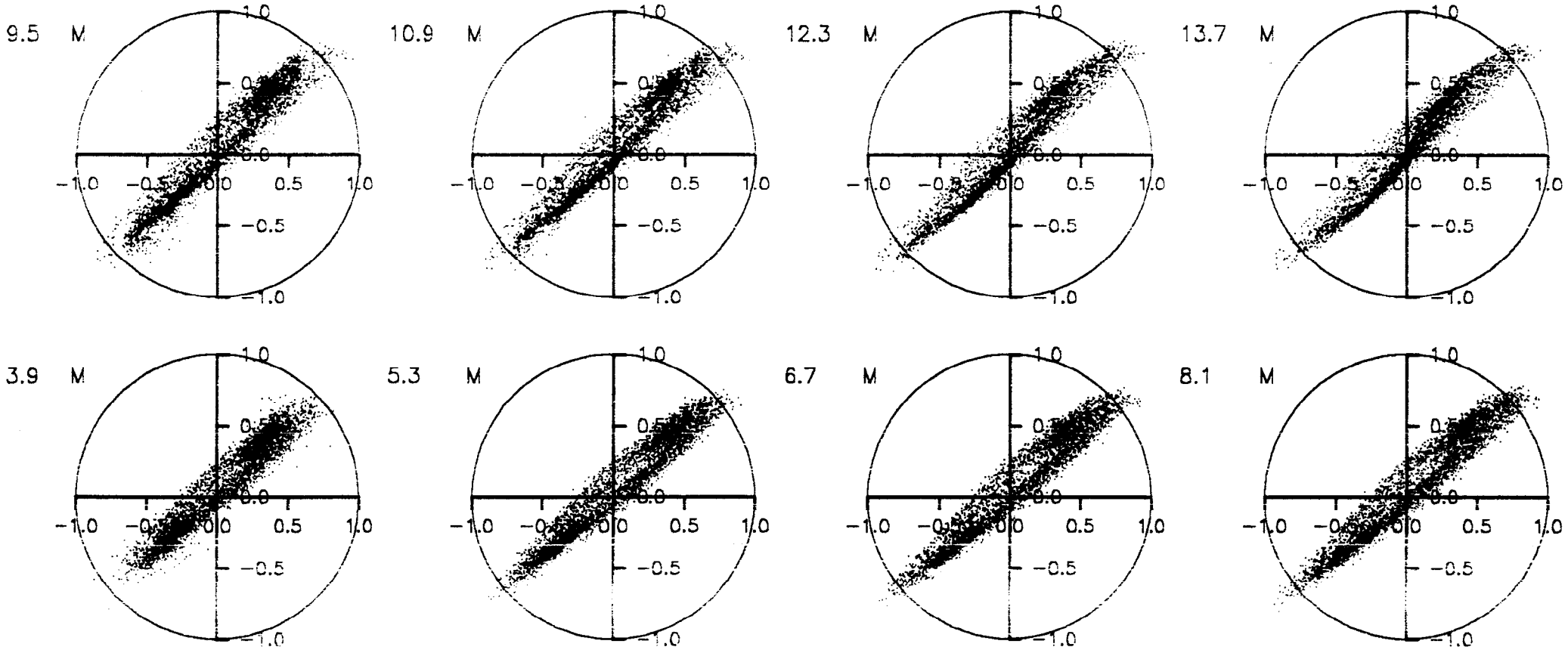


SCATTER PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

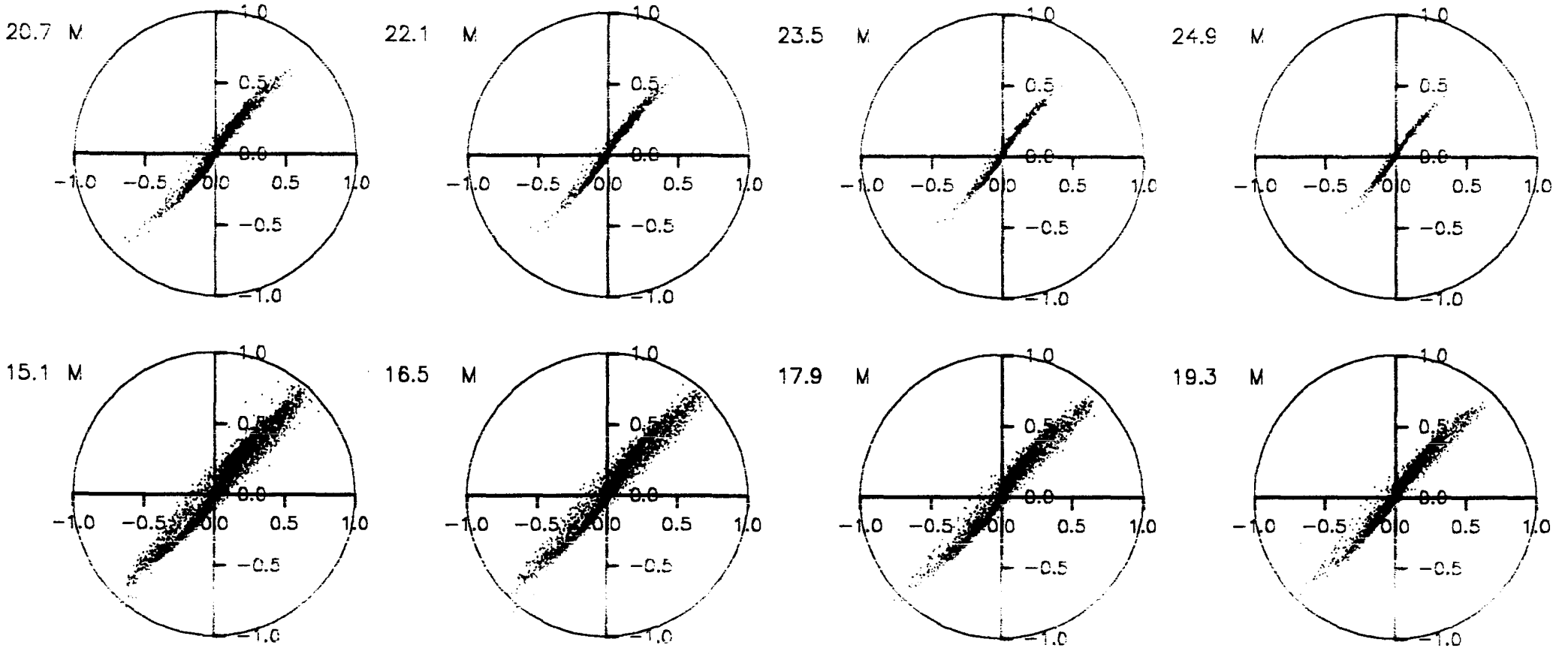


SCATTER PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht



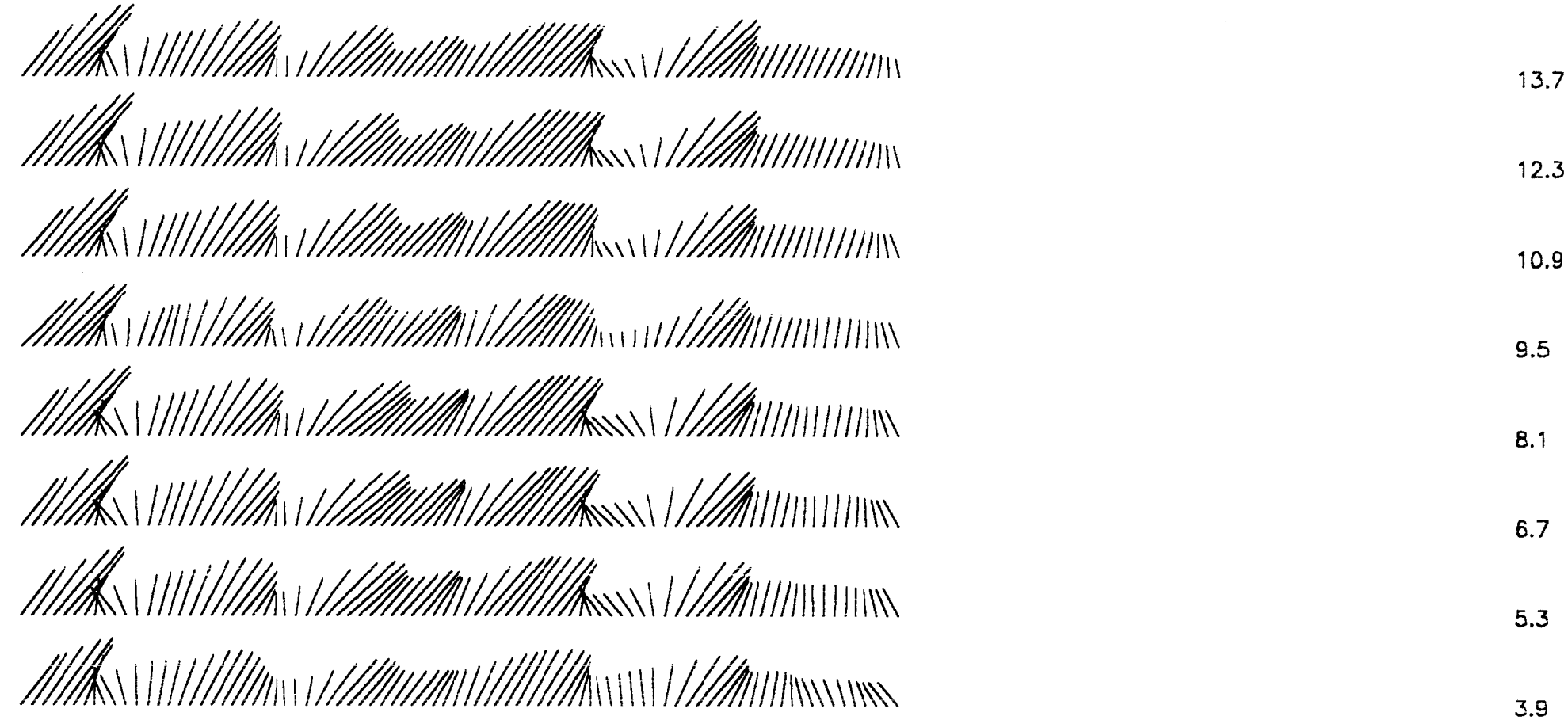
STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

Scale 0.1 m/s



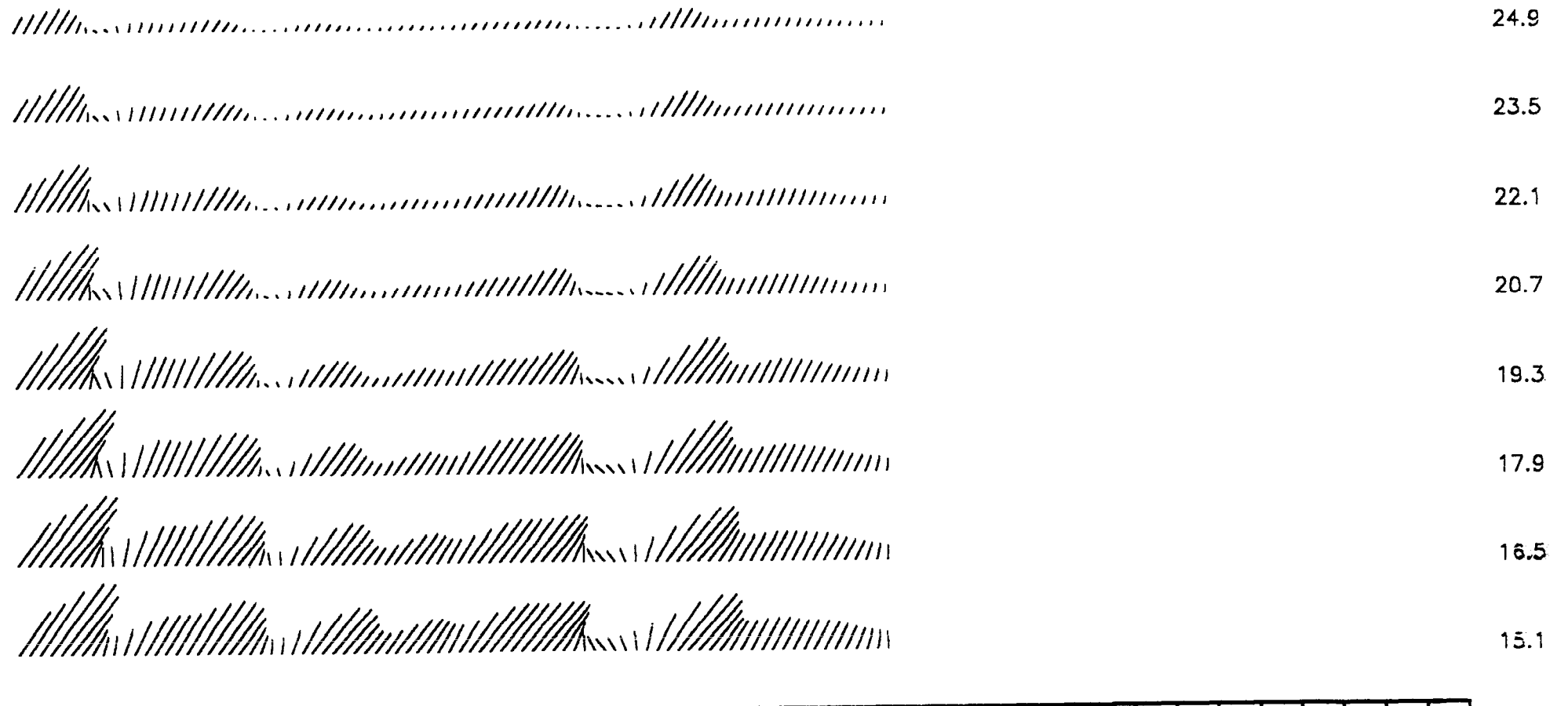
STICK TIME SERIES PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht

Scale 0.1 m/s



STATISTICS FOR DP0010 00476

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.076	24.6	0.2104	46.3	0.0044	136.3
2	5.3	0.083	29.6	0.2788	47.8	0.0042	137.8
3	6.7	0.085	31.8	0.3021	47.9	0.0046	137.9
4	8.1	0.086	33.3	0.3127	47.6	0.0048	137.6
5	9.5	0.077	33.8	0.2671	44.3	0.0048	134.3
6	10.9	0.084	35.3	0.2798	45.1	0.0046	135.1
7	12.3	0.087	36.5	0.2659	45.0	0.0043	135.0
8	13.7	0.085	36.6	0.2310	44.1	0.0038	134.1
9	15.1	0.075	34.6	0.1634	40.5	0.0020	130.5
10	16.5	0.071	34.9	0.1350	40.5	0.0016	130.5
11	17.9	0.061	34.2	0.0978	39.8	0.0011	129.8
12	19.3	0.052	33.2	0.0662	38.8	0.0007	128.8
13	20.7	0.040	32.2	0.0410	37.9	0.0004	127.9
14	22.1	0.032	31.5	0.0246	36.9	0.0002	126.9
15	23.5	0.025	31.2	0.0145	36.0	0.0001	126.0
16	24.9	0.016	30.2	0.0082	35.2	0.0000	125.2

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	3.9	0.070	20.9	0.0011	60.9	0.0001	150.9
2	5.3	0.075	26.1	0.0017	63.5	0.0001	153.5
3	6.7	0.076	28.4	0.0019	64.3	0.0001	154.3
4	8.1	0.078	30.2	0.0020	63.6	0.0001	153.6
5	9.5	0.069	30.5	0.0012	58.9	0.0000	148.9
6	10.9	0.075	32.5	0.0015	57.9	0.0000	147.9
7	12.3	0.078	33.6	0.0017	58.6	0.0000	148.6
8	13.7	0.076	33.6	0.0016	57.2	0.0000	147.2
9	15.1	0.068	33.3	0.0011	48.2	0.0000	138.2
10	16.5	0.063	32.6	0.0011	47.7	0.0000	137.7
11	17.9	0.053	31.1	0.0010	45.6	0.0000	135.6
12	19.3	0.044	29.8	0.0008	42.7	0.0000	132.7
13	20.7	0.033	28.5	0.0006	40.2	0.0000	130.2
14	22.1	0.026	28.1	0.0004	38.1	0.0000	128.1
15	23.5	0.020	28.1	0.0002	36.5	0.0000	126.5
16	24.9	0.012	26.6	0.0001	34.9	0.0000	124.9

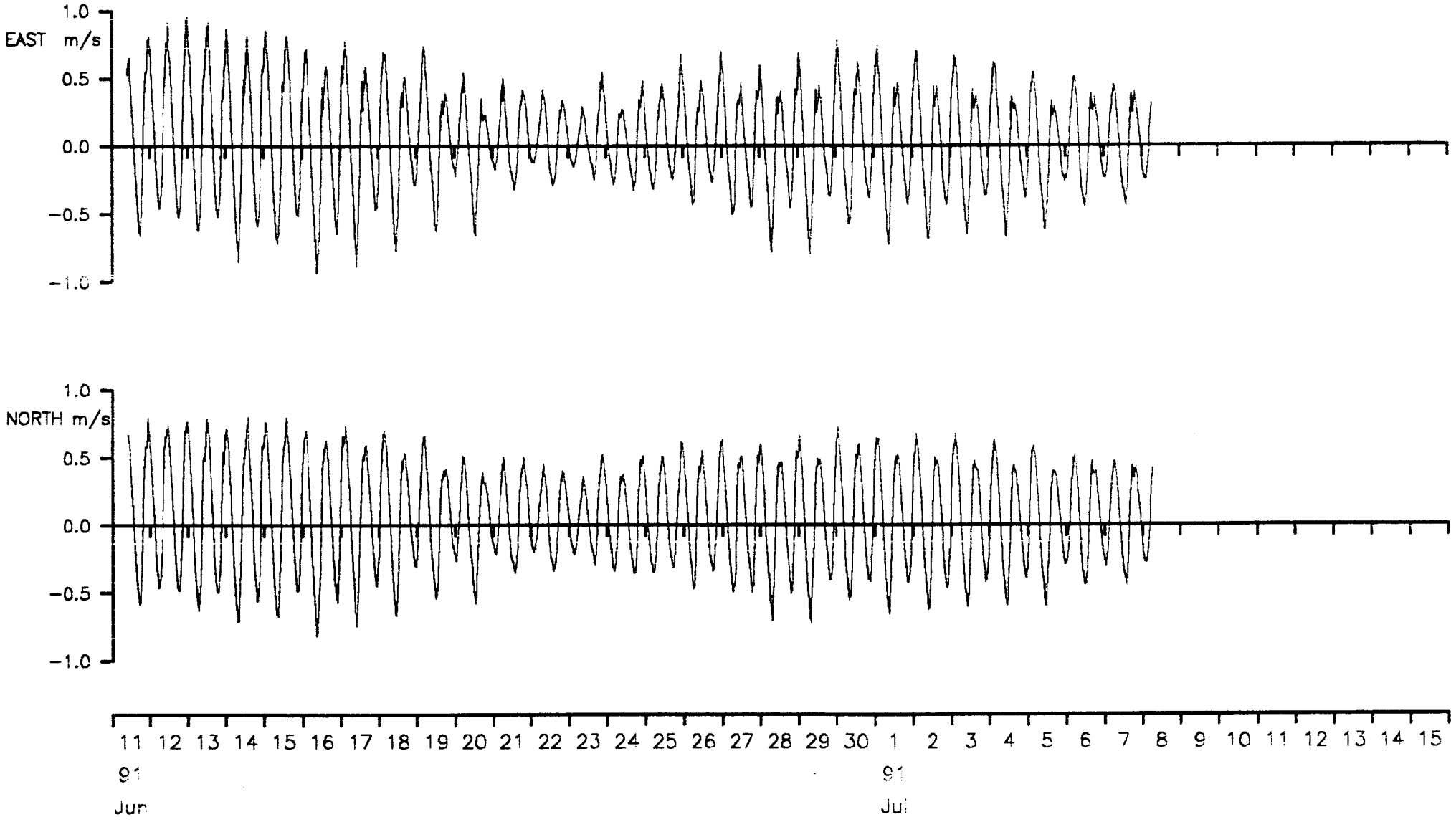
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average depth



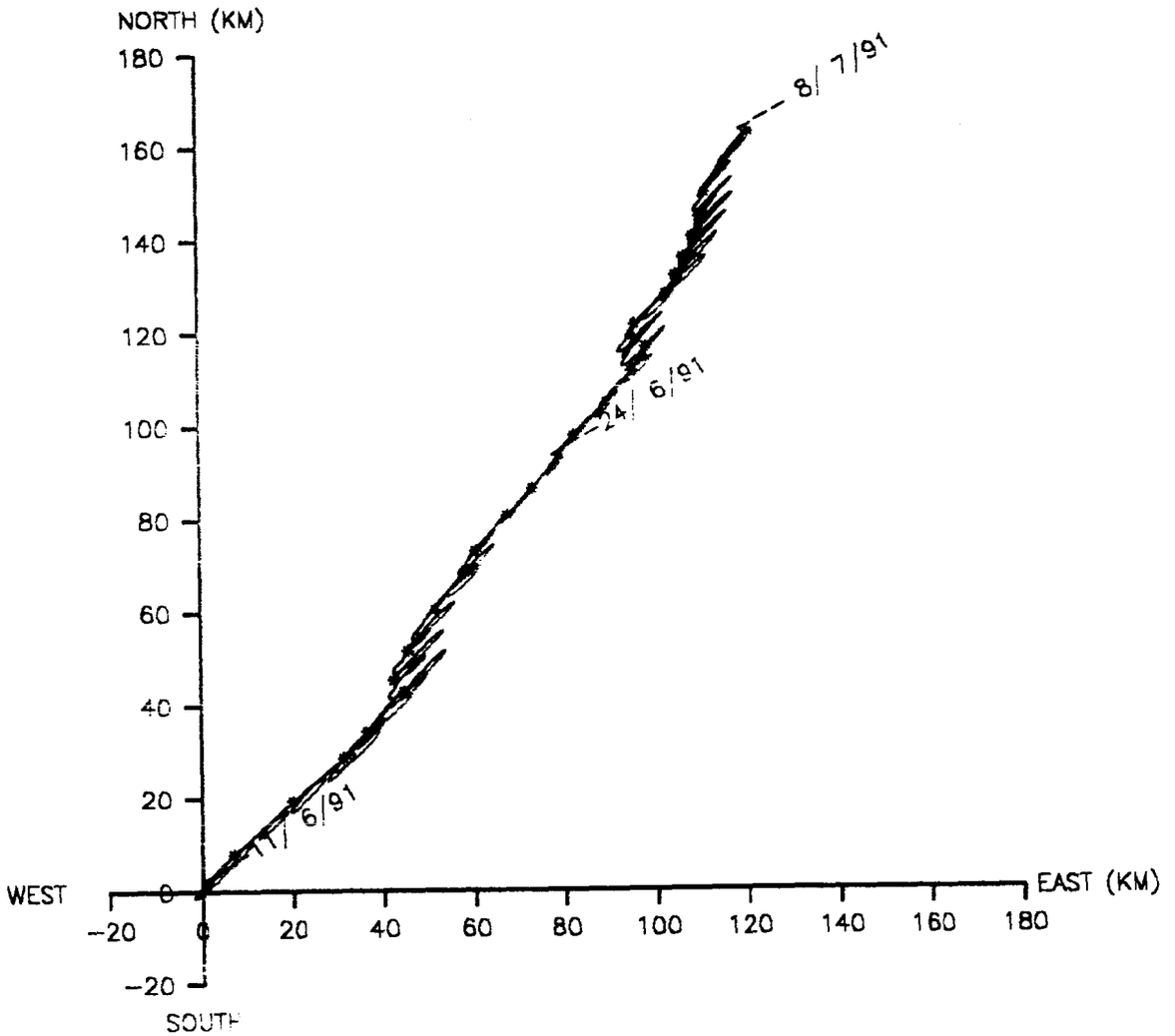
VECTOR PLOT

Meter no. 0010 Rig no. 00476 Depth of water(m) 30.0

Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00

Position 50 56.60N 01 16.40E 3.9 Base Ht 1.4 Gap Ht 12.3 Bin Ht (m)

Bin closest to depth average



Statistics for DP0010 004767 A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0515	0.13528395E+00	0.36780971E+00
Northings	0.0696	0.13497287E+00	0.36738658E+00
Speed	0.4587	0.67352831E-01	0.25952435E+00

Vector mean speed 0.0866
Vector Mean Direction 36.5

Maximum ten values

Eastings					Northings				
0.947	0.937	0.911	0.904	0.892	0.798	0.795	0.787	0.783	0.772
0.889	0.885	0.882	0.874	0.865	0.764	0.764	0.763	0.763	0.762

Minimum ten values

Eastings					Northings				
-0.855	-0.858	-0.873	-0.881	-0.894	-0.715	-0.719	-0.721	-0.732	-0.743
-0.900	-0.912	-0.920	-0.924	-0.940	-0.753	-0.797	-0.799	-0.810	-0.819

Maximum speeds

1.234	1.220	1.184	1.175	1.170	1.165	1.162	1.162	1.149	1.149
1.148	1.147	1.135	1.133	1.133	1.127	1.122	1.122	1.120	1.119
1.114	1.111	1.110	1.108	1.105	1.105	1.105	1.105	1.103	1.102
1.100	1.100	1.099	1.095	1.089	1.089	1.082	1.081	1.080	1.078
1.077	1.077	1.076	1.076	1.071	1.070	1.062	1.061	1.058	1.057
1.057	1.057	1.055	1.054	1.051	1.051	1.051	1.050	1.050	1.050
1.049	1.048	1.043	1.042	1.041	1.040	1.040	1.037	1.036	1.036
1.036	1.035	1.033	1.032	1.031	1.030	1.029	1.025	1.024	1.024
1.023	1.021	1.020	1.019	1.017	1.017	1.017	1.016	1.016	1.016
1.015	1.015	1.015	1.014	1.013	1.010	1.009	1.008	1.008	1.004

Variance ellipse statistics

Maximum variance 0.2659E+00 Direction 45.0

Minimum variance 0.4313E-02 Direction 135.0

Total variance 0.2703E+00 Ratio of variances 0.1622E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -2.7

Average direction. maxdir +PI/2 to maxdir -PI/2 179.1

Statistics for DP0010 004767F A
Doppler bin number 7

	Mean	Variance	Standard deviation
Eastings	0.0431	0.12447818E-02	0.35281464E-01
Northings	0.0650	0.49224729E-03	0.22186648E-01
Speed	0.0814	0.11927742E-02	0.34536559E-01

Vector mean speed 0.0780
Vector Mean Direction 33.6

Maximum ten values

Eastings					Northings				
0.117	0.112	0.096	0.096	0.091	0.120	0.118	0.106	0.102	0.097
0.090	0.090	0.089	0.088	0.086	0.096	0.093	0.093	0.092	0.092

Minimum ten values

Eastings					Northings				
-0.004	-0.007	-0.009	-0.010	-0.015	0.038	0.036	0.036	0.035	0.033
-0.016	-0.019	-0.020	-0.022	-0.023	0.032	0.031	0.029	0.027	0.026

Maximum speeds

0.168	0.163	0.142	0.135	0.134	0.130	0.129	0.127	0.126	0.126
0.126	0.125	0.124	0.124	0.123	0.122	0.119	0.118	0.118	0.113
0.112	0.112	0.108	0.103	0.102	0.099	0.098	0.098	0.098	0.096
0.096	0.096	0.094	0.090	0.089	0.086	0.085	0.084	0.081	0.080
0.078	0.076	0.072	0.072	0.072	0.071	0.071	0.070	0.067	0.067
0.064	0.063	0.062	0.061	0.061	0.061	0.060	0.059	0.056	0.056
0.053	0.053	0.052	0.052	0.050	0.050	0.048	0.047	0.047	0.044
0.043	0.043	0.042	0.042	0.039	0.037	0.037	0.037	0.036	0.035
0.033	0.033	0.033	0.031						

Variance ellipse statistics

Maximum variance 0.1690E-02 Direction 58.6

Minimum variance 0.4639E-04 Direction 148.6

Total variance 0.1737E-02 Ratio of variances 0.2744E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -31.0

Average direction. maxdir +PI/2 to maxdir -PI/2 262.1

Meter information details for 1038

Rig No	:	00476
Meter No	:	1038
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.5 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	09-JUNE-91 08:50:40
Meter stopped	:	12-JULY-91 11:10:41
Period switched on	:	33.1 days
Period of good data	:	26.9 days
Total number of scans	:	3869
Timing error	:	1 second slow
Comments	:	Good record obtained

Meter no. 1038 Rig no. 00476 Depth of water(m) 30.0
Start/End 1991/06/11 AT 10:10:00 1991/07/08 AT 06:55:00
Position 50 56.60N 01 16.40E Meter Height(m) 0.5